# THE LANCET.

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# The Lettsomian Lectures

ON

# TUBERCULOSIS OF THE KIDNEY, AND MALIGNANT DISEASE OF THE CÆCUM.

*Delivered before the Medical Society of London on Feb. 3rd and 17th, and March 2nd, 1908,*

BY CHARTERS J. SYMONDS, M.S. LOND., F.R.C.S. ENG.,

SURGEON TO, AND JOINT LECTURER ON SURGERY AT, GUY'S HOSPITAL.

*(With Coloured Plate.)*

## LECTURE I.

*Delivered on Feb. 3rd.*

### TUBERCULOSIS OF THE KIDNEY.

MR. PRESIDENT AND GENTLEMEN,—When the council of the Medical Society honoured me with an invitation to deliver the Lettsomian lectures it so happened that I was at the moment interested in the early recognition of renal tuberculosis, and I suggested to Mr. Cuthbert S. Wallace, who conveyed the invitation of the council, that this might form an appropriate subject. The discussion in December, 1905, on the earlier recognition of renal disease, especially by the aid of the cystoscope, will be fresh in the minds of the Fellows, especially the admirable and interesting introductory paper by Mr. E. Hurry Fenwick. In speaking on that occasion I had to acknowledge my own ignorance of any practical acquaintance with these methods and could only express our indebtedness to Mr. Fenwick and his colleagues for the part they had taken in advancing our knowledge of urology. Since that time I have in all suspicious cases sought the assistance of some one possessing expert knowledge in these matters and shall refer to the valuable aid afforded me by Mr. J. G. Pardoe, while in other cases I have had the assistance of my old pupil, Mr. R. H. Jocelyn Swan. My colleague, Dr. J. W. H. Eyre, bacteriologist to Guy's Hospital, has in most of the cases carried out the observation on the urine and has, where thought wise, conducted the treatment by tuberculin.[1]

I propose to offer for your consideration the results of this recent experience in the hope that it may be instructive to some and not uninteresting to others. In this lecture my object is to deal with the early symptoms and the methods of diagnosis as illustrated by the cases; to exhibit the condition found in the kidney when removed; and in this way to arrive at some notion of the duration of the disease, its mode of progress, and to justify the surgical proceedings undertaken.

In looking over the history of my cases treated by nephrectomy during the ten years preceding this period now under consideration I find that in nearly all a renal tumour existed. In nearly all there was a history of pain more or less continuous, interrupted from time to time by acute attacks of renal colic. It became desirable, therefore, to examine the urine and the bladder for tuberculosis in all cases of renal colic and vesical irritation, where calculus was excluded, in order to employ surgical treatment if advisable in the earlier stages of the disease. Renal colic as an initial symptom is well illustrated by Case 1.

CASE 1.—The patient, a female, aged 20 years, was first seen by me early last year. A few days before this she had been seized with pain in the right loin passing down to the bladder accompanied by vomiting and headache. The urine was scanty and contained pus, and there was a frequent desire to micturate. Two years before she had a similar attack of severe pain on the right side, accompanied also with headache and vomiting, and since then at intervals these attacks had recurred. They were called "bilious attacks" and attracted little attention, as she soon recovered and resumed her games and horse exercise. She had been seen professionally 15 months previously for one of these attacks, in which she appeared very ill with a dirty tongue, a pulse of 100, but a normal temperature. There were loss of appetite, vomiting, and headache. The pain extended from the right side in the region of the kidney down to the bladder, and there was also marked pain over the gluteal region and down the inner side of the thigh. The urine contained a considerable amount of albumin, some oxalate crystals, a small amount of muco-pus, a few blood corpuscles, and cells of the renal type. Renal calculus was suspected but not confirmed by the x rays, though there was a suspicious shadow in the lower pole of the kidney. This was not thought to indicate calculus by Dr. G. B. Batten, who took the skiagraph. Given this history over the telephone with the present condition of scanty urine, general illness, and vomiting, the patient evidently being in the midst of one of her attacks, and this the worst of its kind, it seemed wiser to defer operation, though the history appeared in every way typical of renal calculus, save and except for the large amount of albumin reported over three years before. Being alive to the possibility of tubercle I suggested that the bacillus should be looked for in the urine before my visit and in the meantime, as there was a little improvement in the general condition and a slight increase in the amount of urine, to continue the exhibition of fluids by the mouth and the rectum. The Clinical Research Association reported tubercle bacilli present in film preparations in considerable numbers, together with a moderate quantity of pus, the usual squamous and some renal cells, and a fairly large amount of albumin. When I first saw the patient she was getting over the attack; the quantity of urine was nearly normal and the pain had subsided. She was of delicate appearance, thinner than she ought to be, but of a lively and bright disposition. The right loin was tender but the kidney was not enlarged. The micturition was frequent and painful. Of the existence of tuberculosis of the right kidney there seemed little doubt, while the painful micturition suggested associated infection of the bladder. Though recognising the unilateral incidence of renal tuberculosis, and the comparative safety of nephrectomy after ascertaining the presence and apparently normal condition of the opposite kidney by palpation through a laparotomy wound, a cystoscopic examination at the present day was essential.

A fortnight later preparations were made for operation, provided our view as to the unilateral character of the disease was confirmed by the cystoscopic evidence. The anæsthetic was given by Dr. J. F. W. Silk. Mr. Pardoe conducted this with his usual dexterity, and showed the lips of the right ureteric orifice to be swollen, puffy, and ulcerated, and the efflux to be sluggish and cloudy. There was a patch of inflamed mucous membrane studded with tubercles to the right and above this ureteric orifice, and another high up on the left of this orifice. The left ureteric orifice was normal and the efflux was clear and rapid. The bladder under the anæsthetic held ten ounces. The unilateral incidence being confirmed, and the vesical tubercle being no doubt secondary to the renal, it was decided to perform nephrectomy at once. Through a vertical incision and by separating the superficial muscles the kidney was exposed. The ureter was thickened but not rigid and the lower end of the kidney on palpation exhibited an irregular hardening. The diagnosis being practically confirmed the kidney was removed, the pedicle being secured by silk and the ureter with catgut. The operation proved a simple one, as the kidney was neither enlarged nor adherent, and was completed in a little more than 20 minutes. The condition presented by the kidney is well shown in the water colour drawing (Fig. 1) and the specimen still exhibits the main features. In the lower pole an irregular excavation is seen surrounded by a dense wall of cicatrised renal tissue. This is evidently of old standing and indicates the site of the primary deposit of more than two years before. It was this dense tissue Mr. Blatherwick considers which gave the shadow in the skiagram. In the cortex a crop of miliary tubercles of recent origin is seen, while the specimen shows the entire thickness of this part of the kidney to be infiltrated with tubercle. The pelvis is studded with a like deposit of miliary tubercles. It is obvious from these appearances that only nephrectomy could have removed the disease and made treatment of the vesical tuberculosis at all possible. The ureter was not excised, though known to be infected, chiefly because I deemed it unwise to prolong the operation in a patient who so recently had passed through an attack associated with marked diminution in renal secretion. Again, the prolongation of narcosis might have an injurious

[1] In certain cases we have regretfully omitted the dates and the addresses of the medical practitioners, which were fully given by Mr. Symonds; we have done this in the interest of the practitioners, whose patients might have reproached them with the publication of details leading to identification.

effect on the remaining organ. Ureterectomy could be carried out later if necessary.

The recovery from the operation was as satisfactory as one could expect in a patient of a very sensitive disposition and where there was coincident vesical tubercle. The temperature and pulse scarcely varied from the normal for a fortnight. The average daily amount of urine for the ten days before operation was 32 ounces. The day after operation 32 ounces were passed, on the next day 39 ounces, and the sixth day 55 ounces. The loin sinus did not close till the ligature came away nearly six months after operation. The bacilli finally disappeared from the urine after six months' treatment and the vesical irritation, relieved at once by the removal of the kidney, gradually subsided. At the present time she has no symptoms and though Calmette's ophthalmic test in November gave a faint reaction she may be considered cured of the urinary tuberculosis. She has gained in weight and can walk several miles. There remains some degree of the pain in the right buttock and inner side of the thigh.

For a delicate young woman with a strong tendency to tuberculosis the local recovery must, I think, be considered satisfactory. Whether there lurks somewhere a deposit antecedent to, or following, the renal infection causing the gluteal pain time alone will tell. While it cannot be denied that this pain may be due to scar tissue about the end of the ureter the experience of other cases is opposed to such a view. As soon as possible after the operation treatment by tuberculin was begun, the first injection being given by Dr. Eyre on Feb. 3rd. This was carried on by Mr. Blatherwick till December and to this method must be given full credit for its share in bringing about so good a result, particularly as regards the bladder. For the opsonic index work and the summary of the examination of the urine I am indebted to Dr. Eyre. Some time, probably two months after operation, the patient had an attack of pain much resembling her former colic, ending with the escape of a plug of mucus, which no doubt had travelled down the ureter.

The next case more closely resembles renal calculus and is, moreover, interesting as indicating the long existence of renal tubercle without local symptoms.

CASE 2.—The patient, a man, aged 46 years, of a particularly active temperament, a hard and keen worker, came of a healthy family in which no inherited malady of any kind could be traced, two brothers and three sisters being alive and well. During 1905 and 1906 he had not been well. He found it difficult to carry on his business, especially as on several occasions he had been obliged to do his work while suffering from an attack of influenza. This feeling of malaise and the loss of nerve power increased to such an extent that he felt obliged to give up work and take a long rest. Up to this time there had been no loss of weight nor any manifestations of local disease. On Nov. 29th, 1906, during a voyage to the East, he was seized with an attack of renal colic, and he had a second attack on Dec. 1st. From this date there was constant pain in the bladder with increased frequency of micturition, amounting at times to twice in the hour, and there was also pain along the urethra and at the end of the penis. The urine contained a trace of albumin; the deposit showed epithelial and a few pus cells but no blood cells. There was no tenderness in the loin nor any enlargement of the kidney or prostate. The medical men consulted at this time all thought that he was suffering from calculus, either in the ureter or bladder. He reached home on Feb. 17th, 1907, the last fortnight having been one of comparative comfort, but during the night of the 18th there occurred another attack of severe renal colic lasting two hours. After much distress a distinct plug of mucus tinged with blood was passed, followed by relief to all the acute symptoms. The pain along the urethra and at the end of the penis, together with increased frequency of micturition, continued up to the time of my seeing him. He had to micturate twice in the night and during the day every hour. He consulted me in March, 1907, giving the above history, from which one naturally concluded that a small stone had entered the bladder after the first attack of colic and that another had passed down the ureter on Feb. 18th. As sounding and the x rays gave no evidence of stone I feared, from an experience of other cases, the existence of renal tubercle. An examination of the urine on five occasions showed tubercle bacilli in small numbers on four. The cystoscopic examination was made by Mr. Pardoe under cocaine. The bladder wall was everywhere healthy. The left ureteral orifice was normal and a clear efflux of urine was seen. The lips of the right orifice were swollen, pouting, œdematous, and reddened, but were free of tuberculous deposits. The efflux was very sluggish but clear. This condition, new to me, was very obvious and striking, and suggested that the ureter as well as the kidney was affected with tubercle. The evidence now seemed complete as to the tuberculous affection being limited to the right kidney and ureter, and in view of the danger of such a condition and of the continued distress from which he was suffering I decided to examine and, if necessary, remove the kidney and ureter.

On March 26th the kidney was exposed by an oblique division of the muscles. On account of the small space between the ribs and iliac crest a longer incision than usual was required. The lower end of the kidney felt hard and irregular and was adherent to the perinephric fat. The ureter was enlarged and thickened, but not hard and rigid as in the old cases. It was ligatured with catgut and divided, the stump rubbed with pure carbolic acid, and returned. The pedicle was secured with silk, the vessels being carefully isolated so that no part of the capsule was included. I had intended to remove the ureter in this case, but as the operation was somewhat prolonged and seeing that recovery of such a ureter, especially without vesical infection, was well known to occur, I abandoned this additional measure.

The drawing from this kidney (Fig. II.) and the specimen before you show two distinct stages of disease. The lower third is contracted and shrunken and on section shows several irregular cavities with hard, almost cartilaginous, walls, all renal tissue being destroyed. In the cortex recent miliary tubercles are visible, while the pelvis, studded with miliary tubercles, is also thickened and granular. The ureter, everted for better exhibition, is also tuberculous. How long such a condition had existed it is impossible to estimate from the history, probably more than two years during which his health was indifferent, to judge from the indurated and shrunken condition of the lower pole of the kidney.

The vesical and urethral irritation disappeared at once, the drainage-tube was removed in two days, and apparently primary union followed. By the end of the fourth week he was moving about, passing 35 ounces of urine free from tubercle bacilli, and had no vesical discomfort. Three weeks after the operation Dr. Eyre injected the first dose of tuberculin, which was followed by a marked negative phase, the index on two days being 0·44, recovering quickly to 1·05. As a marked negative phase followed a second injection and as there were no tubercle bacilli to be found in the urine or in the pus, this method of treatment was discontinued, chiefly at the patient's request. In abandoning the tuberculin treatment we perhaps took an unwise course, looking to the improvement that has followed the prolonged use of this method in other similar cases. Be that as it may, the course of the case was not satisfactory.

About six weeks after operation the loin became swollen and a low form of suppuration developed. Spontaneous evacuation of small quantities of pus took place at several points. The patient became very depressed on account of this relapse and suffered a great deal of pain in his groin and leg. After trying various measures the sinuses were curetted and a large amount of granulation tissue was removed. It all looked tuberculous, but no bacilli could be found by Dr. Eyre either in the tissue or in the pus. The part cleared up a great deal, the sinuses became small, and no sprouting granulations were visible. He went through the summer fairly well, taking exercise and eating well, but with some uneasiness about the bladder and a strange sensation in these parts when the bowels acted. Writing from the seaside on Nov. 11th he reports pain in the testis on walking, and later in the penis and end of the urethra accompanied by increased frequency of micturition—in fact, a return of many of the symptoms existing before nephrectomy. At this time he no doubt had pyrexia a greater part of each day.

The suspicion that disease had attacked the left kidney was in all our minds, but this was removed by the urine being found free from all suspicion and by Mr. Pardoe's report of a further cystoscopic examination. He found the right ureteric orifice a little irregular but not "dragged out," nor was there any swelling or redness of the surrounding parts. There was a rapid clear efflux from the left ureter, and the bladder was quite healthy. This appearance did not, Mr. Pardoe thought, indicate active ureteric tuberculosis, and in the absence of bacilli I attributed the symptoms myself to the loin sinus kept up by the pedicle ligature. This was removed under ether and though the

FIG. I.

FIG. II.

FIG. III.

TO ILLUSTRATE MR. CHARTERS J. SYMONDS'S LETTSOMIAN LECTURES ON TUBERCULOSIS OF THE KIDNEYS.

urethral pain disappeared the temperature still maintained a hectic type. To account for this it is to be noted that the patient had suffered from abdominal distension since November, and Dr. Frederick Taylor, who saw him with me in December, detected fluid and considered that there was probably tuberculous infection of the peritoneum. Such a complication would explain the nausea and abdominal uneasiness from which he suffered at this time. The question of a tuberculous ureter keeping up the loin sinus was again considered, and though he was much reduced in strength, chiefly from inability to take food on account of nausea, I decided to remove the ureter and re-examine the sinus. The pulse seldom counting more than 80 led me to think that he would stand the strain of the operation. This was done in January, 1908. The ureter was closed at the upper end and did not communicate with the sinus. It showed on microscopical section inactive and disappearing tuberculous growth. The temperature fell at once for four or five days, a result attributable, I believe, to a freer opening of the loin sinus, but rose again, though not to so high a level. The condition of the patient did not become satisfactory, chiefly on account of inability to take his food, but though he is emaciated and has at times restless nights we can find no active tubercle, so that I hope with a move to the sea he may yet get quite well.

Of prolonged vesical and urethral irritation as the only symptom the following case is a good example.

CASE 3.—The patient, a female, aged 25 years, was sent to me for an opinion by Dr. A. D. Brenchley of Denmark Hill in April, 1907, accompanied by a letter which sums up the position so well that I will quote it *in extenso*: "She has pus in her urine (verified by microscope), and that it does come from bladder, and not vagina, I have determined by drawing some off by catheter and finding pus in it. The specific gravity is 1015, the reaction alkaline; the albumin is accounted for by the pus. She has complained on and off for about 12 months of pain in region of bladder after passing urine, but of no other symptoms, except that she has to get up in the night to pass water. I have thought the pus most likely to be due to cystitis, but why should she have cystitis? I cannot find any stone, though I have examined with the sound, and the chamber is not coated with the viscid mucus usual in cystitis, nor is the pain great enough. On the other hand, there is no back pain or evidence of kidney disease. Temperature normal. I was going to wash out the bladder with boroglyceride but thought perhaps you might see her first to help me to a more certain diagnosis as to stone, kidney disease, or tuberculous disease of either bladder or kidney. If you think it only a simple cystitis I will undertake her case at home and any treatment, except operation, you may suggest. If the latter be required perhaps you would take her into the hospital." My own inquiries elicited further that in October, 1906—i.e., six months before her visit to me—she had what was considered a bilious attack, with "pain up the front passage" and frequent desire to micturate. With this she was in bed two days. There can be little doubt, looking to the subsequent history, that this was of reno-ureteral origin. Further, she admitted some pain, or rather discomfort, in the right side, suggesting the kidney as the seat of the disease. The pain was increased on micturition and was severe enough at times to cause her to be "doubled up." At night she was disturbed two or three times. Both kidneys could be easily felt, appeared normal in size, and there was nothing to indicate that either was unhealthy. The leading points in the history were as follows: pain in the urethra, more or less constant, over a period of from eight to 12 months; occasional exacerbations of pain as in October, 1906; frequent and painful micturition; and a discomfort on the right side, just sufficient to indicate right kidney as the source of the evil. The history pointed to more than ordinary cystitis and suggested to me disease of the right reno-ureteral tract and tubercle as the more likely form.

The patient was admitted to Guy's Hospital on May 5th, 1907, under my care. The first examination of the urine made under the supervision of the surgical registrar, while confirming the report sent by Dr. Brenchley, did not reveal any tubercle bacilli. The pus occupied an inch of the conical glass. For complete examination she was put under ether on May 10th and the bladder irrigated, when many small white flakes of muco pus were washed out. No stone was found. The urethral orifice was normal. After gradual dilatation the finger was introduced and the interior examined, again without discovering any stone or growth, nor was there the bleeding usually seen in cystitis. The position of the uterus was somewhat abnormal, but its mobility was not impaired. The cystoscope used on this occasion was imperfect, so that no good view could be obtained. After four weeks' rest in bed with urinary antiseptics and irrigation of the bladder no improvement was secured. On June 9th a specimen of the urine was sent to the bacteriologist, Dr. Eyre, who found what had been suspected—viz., tubercle bacilli. On June 22nd the opsonic index was found to be 0·89.

On June 25th Mr. Pardoe was good enough to examine the patient for me under ether. The bladder held 12 ounces. The margins of the right ureteric orifice were swollen and œdematous and several white elevated points, probably of tubercle, were seen upon these folds. The left orifice was quite normal and the vesical wall was free from disease. In view of the positive information gained by this examination exploration of the right kidney with nephrectomy, if necessary, was decided upon. It must here be again stated that at no time was there sufficient pain to indicate definite affection of the right kidney. There was a little discomfort, low down in the right side at times, just enough to make one suspect unilateral disease. The temperature suddenly rose on the evening of the examination to 102·4° F. and remained up for some days owing to acute tonsillitis. The temperature being normal on July 1st, 2nd, 3rd, and 4th, and the patient appearing well, the kidney was removed on the 5th. An attempt to remove it by separating the muscles failed on account of the size of the organ and of the adhesions. The ureter was thickened, though not hard and rigid. After the kidney was removed an incision was made low down in the groin and the muscles were separated as in the operation for removal of the appendix. The peritoneum was raised and the ureter picked up and drawn down from the loin. It was then ligatured close to the bladder and removed, a rubber drain covered with gauze being inserted. A rubber drain was placed in the loin wound. The kidney was enlarged and showed extensive infiltration with tubercle in the lower and central parts. The lower pole was almost solid with tuberculous growth, but with little excavation. The disease of this part of the pelvis and ureter was extensive, while the upper part of the pelvis was almost normal. In the central portion of the cortex there was a recent crop of miliary tubercles, while the convex surface showed masses of projecting growth. It is interesting to note that over the chief area affected there was some irregular depression of the surface, evidently an attempt at repair. The patient gave a history of less than a year, but the condition of the kidney pointed to a longer duration. The ureter, removed at the same time, was thickened and tuberculous. It will be remembered that the bladder was normal.

Recovery was delayed by an attack of pyrexia with articular pains, probably due to the operation having been undertaken too soon after the tonsillitis. The temperature rose immediately and the attack lasted 11 days. The wounds, however, progressed steadily and she was out on the balcony in the fourth week. The pain in the vagina and the frequency of micturition disappeared immediately after operation and never returned. The urine was free from pus and bacilli in a few days and has remained clear up to the present time. The average amount of urine passed in the ten days preceding the operation was 31 ounces with a specific gravity of 1020. Over the same period after operation the average daily amount was 25 ounces, on one occasion as much as 42 ounces being passed. The urea in the first few days after operation varied from 2 to 2·7 per cent. and then fell to 1·5 to 1·9.

Seen in January last the patient looked well, had gained over a stone in weight, and made no complaints. A small loin sinus persisted, from which some tuberculous material was removed, but the urine was free from bacilli and pus. It is to be noted that tuberculin was not employed in this case.

CASE 4.—A woman, aged 40 years, was sent to me for an opinion, with the following notes dated Jan. 13th, 1907: "For some time past she has complained of attacks of abdominal pain, sometimes with nausea, and on one or two occasions accompanied with vomiting. The pain, never acute, seems to be diffused over the lower abdomen." In greater detail it appears that these attacks came on about once a week, with a feeling of coldness across the abdomen. The attack usually occurred in the night and lasted about an hour—from 12 to 1 or till 2 A.M. The attack was followed by a day of lassitude, but recovery soon followed and she resumed the duties of an active life. For more than a year

these attacks had been troublesome and frequent and though watched both during and after the seizures nothing abnormal had been observed on examining the abdomen, nor could any connexion be traced with the periods or the intestinal tract. The patient had noticed, however, that the pain sometimes followed an action of the bowels. Looking back the patient thought that these attacks had existed two years, but only markedly during the last year, while her husband thought that these curious so-called bilious attacks had occurred occasionally ever since her marriage—i.e., five years before she came under my care. For some few months, not more than six and probably for a shorter time, there had been discomfort in the bladder, the frequency of micturition had increased, and there had of late been pain on passing the urine. She had to get up once or twice in the night and after one of the abdominal attacks above described these vesical symptoms were increased. The urine, examined from time to time in 1906, showed a little pus and some crystals under the microscope and contained a small third of albumin. Commenting upon these facts her medical man added that he thought at first there was only a little cystitis, such as was often seen in women, and saw no special reason for serious alarm till he found in January a large amount of albumin, much more than could be accounted for by the pus. On Jan. 11th the urine was examined more fully by the Clinical Research Association, the report being as follows: "There is a fair quantity of pus associated with abundant extremely polymorphous cells of a vesical type which frequently form small continuous masses suggestive of ulceration of the bladder wall. The presence of an excess of albumin over that due to the pus alone is rather suggestive of some renal complication, but we can find neither tube casts nor renal cells, and red blood discs are few in number. No crystals are observed. The extremely suspicious character of the specimen suggested a bacteriological examination and we find considerable numbers of tubercle bacilli to be present." Such were the facts placed before me when asked to see this patient in consultation.

On Jan. 22nd I examined the patient, a lady of 40 years, looking very well indeed in colour and nourishment. Beyond the two chief symptoms above described—viz., slight paroxysms of abdominal pain and frequent micturition—no new fact was elicited. Blood had never appeared in the urine, the distribution of the pain was not characteristic of renal colic, even in slight degree, nor, again, of appendicular colic. The motions did not contain mucus or blood, nor was there any undue frequency in the action of the bowels. Neither kidney could be felt, nor was there any tenderness in the loins. The urine was clear and averaged two pints daily. Writing to me on Jan. 13th her medical man expressed the opinion that the pain was due to some mischief in the kidney, with or without vesical complication. Looking to the importance of the early recognition of the incidence of the tuberculous infection I advised a cystoscopic examination of the bladder and quite expected to find evidence of renal disease, for the curious abdominal attacks and the vesical irritability were clearly associated. The cystoscope should reveal the condition of the bladder and also probably which if either kidney was affected. On Jan. 26th "the urine looked opalescent and the albumin on standing amounted to one-third of the tube contents—obviously far more than one would expect from the presence of a little pus"—a result which seemed to point more to kidney than bladder.

The cystoscopic examination was made by Mr. Pardoe on Jan. 30th under ether, the patient being unable to bear the required distension of the bladder. There were found diffuse tubercle, mature and immature, about the fundus and one shallow ulcer with ragged edges to the right of the right ureteric orifice. The outer lip of the right ureteric orifice was reddened but not ulcerated or swollen. The left ureteric orifice was normal. A clear efflux of urine was seen from both sides. I had an excellent view of the appearances afforded me by Mr. Pardoe and may add to his description that the groups of miliary tubercles were most characteristic and the ulcer clearly visible in the midst of one area. The ureteric orifice did not show the changes indicative of renal or ureteral infection, there being no œdema of the lips and no retraction of the orifice. Nor were the groups of tubercles gathered especially round this orifice. It must, however, be admitted that the distribution was almost confined to the right side. On the cystoscopic appearances the kidney was considered to be free from disease. The large amount of albumin and the curious abdominal attacks referred to were, however, left unexplained. With regard to the irritability of the bladder to local examination it may be added that not more than three ounces of saline solution could be retained. For this reason, and not because of any nervous dread, ether was employed, and only after several attempts without its aid.

It was decided to inject tuberculin, to avoid all local vesical treatment, and to advise the patient to lead, as far as possible, her ordinary life. Dr. Eyre made a careful study of the case, the blood being sent up from time to time. The journey to London gave rise to no inconvenience; indeed, the patient said it had done her good. There was no pain or discomfort beyond the bladder irritability and she enjoyed a bicycle ride the day after her return. During the spring and early summer, while the tuberculin injections were being made, little, if any, change was noticeable, either in general health or in vesical irritability. She led an active life, took part in games of tennis and other outdoor amusements, and maintained her weight. But in July the vesical symptoms increased to such an extent that she had to give up many of her occupations, while in August she led the life of a semi-invalid.

On Sept. 17th I saw her on her way through town to the seaside. Since the end of July the "abdominal attacks" had ceased—a result she attributed to the tuberculin. The frequency of micturition now necessitated her getting up four or five times in the night, and in the day the call was almost hourly and the action was accompanied with some pain. For a month she had been either in bed or lying about in the garden and had had to give up tennis and cycling because of the increased frequency of micturition. During this period (January to July) the urine was frequently examined by Dr. Eyre and contained on Feb. 8th 0·4 per cent. of albumin, on May 10th 1 per cent., on June 7th 0·04 per cent., and on Sept. 17th 0·6 per cent. On this last date Dr. Eyre reported a fair number of tubercle bacilli present and also that since June the amount of pus had increased, though there was not so much in this as in some other samples. He also reported that the tubercle bacilli were more numerous than three months before. A new symptom was now complained of, for she noticed that it took some little time to get into a comfortable position in bed and that sometimes there was discomfort on lying on one side. There was no enlargement of either kidney to be made out nor was there any loin tenderness. She looked well, though somewhat tired from broken nights.

As the frequency of micturition was now rendering the patient an invalid the question of employing local vesical treatment had to be settled, and with this view a further cystoscopic examination was made by Mr. Pardoe on Oct. 11th. The bladder proved very irritable, so that ether had to be given at once. To our surprise there was a great diminution in the area affected, nearly all unbroken miliary tubercles having disappeared. There were to be seen, however, two somewhat deep, ragged-edged, crater-like ulcers near the right ureteric orifice. Both orifices appeared normal, the efflux was clear, and we did not detect any difference between the two sides. Again, the evidence of renal infection was negatived and the question of treating the ulcers by local applications was discussed. The danger of double infection was, however, considered so great that a further postponement was advised, looking especially to the fact that if deeper in two places the disease was far more localised. Mr. Pardoe, from his experience of such cases, thought recovery still possible without local treatment. With this our patient was somewhat satisfied and a further resort to tuberculin injection was decided upon. Within a week of her return home the temperature rose and an abundance of pus appeared in the urine. According to her own account there had been one or two rigors. The vesical irritation increased and she lost ground rapidly. The range of temperature was from 99° to 101°, the pulse keeping about 84. There was no special complaint of pain in the right loin.

I saw the patient again on Nov. 15th after about three weeks of high temperature with frequent pseudo-rigors. The right kidney was now very much enlarged and could be seen projecting the abdominal wall, and it was tender on handling. Here obviously lay the cause of the urgent symptoms and the source of the pus. What with half-hourly calls to micturate, high temperatures, broken rest, and inability to take food, the strength was rapidly declining. Drainage of the kidney, at least, was advised and removal if

possible. The question of nephrectomy in the presence of the weakened condition of the patient required some consideration. I preferred that this should be decided after the organ was exposed and by the manner in which the operation was borne. The recent enlargement suggested that the capsule would not be adherent to surrounding parts, though the size and hardness of the kidney made it probable that the operation would not be one of the simplest. Again, the rapid onset of symptoms, with the almost sudden appearance of a large tumour, suggested the existence of tuberculous disease in the kidney for some time—a form encapsuled and shut off from the pelvis in a kidney placed high up under the liver. For some reasons therefore it might be wiser to relieve the septic conditions by drainage and subsequently to remove the kidney.

On Nov. 20th the kidney was exposed through an oblique incision, incised, and a large quantity of septic pus was evacuated. The cortical substance was thick and hard and of a deep-red colour. As the operation was being well borne we decided to remove the whole organ. The ureter was thickened and hard and nearly as big as the little finger. It was divided as low as possible, ligatured with catgut, the mucous membrane rubbed with pure carbolic acid, and the end dropped back. By enlarging the incision the pedicle was cleared and ligatured beyond the capsule. There was a good deal of perinephric thickening, so that part of the capsule was stripped from the kidney in the process of enucleation. The kidney was much enlarged and its upper limit was reached with difficulty.

The condition of the kidney is represented with great accuracy in Fig. III. The section shows several large cavities in the cortex having a deep red lining and looking inflamed and septic. The cortex itself is red and thickened. The pelvis is practically obliterated and is occupied, together with the summits of the pyramids, by a fibrous tissue. The appearances suggest a long-standing process. Looking on the left half of the section no channel can be seen between the cavities and the ureter, but in the right half will be seen a channel passing down from the cavities in the cortex to the ureter. The reading of the appearances seems to be that the kidney has been for some time affected with tuberculosis; the pus, shut off in the cavities of the cortex, has remained quiescent until the onset of the general signs of septic poisoning arose in November. At this time a communication formed between the cortical abscesses and the ureter, thus determining the septic changes. The small amount of pus in the urine in early stages was probably derived from the remnant of the pelvis, the ureter, and bladder. The albumin, at one time much greater in amount than could be explained by the pus, was due to the diseased condition of the kidney.

It will be remembered that the history of the curious abdominal attacks extended certainly over two years and possibly five. The appearances presented by the specimen seem consistent with a long history. The attacks of abdominal pain or "biliousness," as they were called, were, I imagine, due either to distension of these cavities or to the passage of mucus along the ureter. They ceased after about four months' treatment with tuberculin. These attacks were no doubt of the nature of renal colic, and such I took them to be when this patient came first under observation and fully expected to find evidence of renal disease on cytoscopic examination. The normal appearance of the right ureteric orifice was taken to negative renal tuberculosis, and notwithstanding the gradual change in the kidney which must have been going on no alteration was observed in this orifice when examined nine months later. Yet the ureter was extensively diseased, for it was as thick nearly as the little finger. It is important to observe that the cytoscopic appearances cannot be absolutely relied upon and that ordinary clinical observation must go hand in hand with these aids to diagnosis. In this case the kidney was more than suspected of being affected throughout—first, because of the large amount of albumin present from the beginning, and secondly because of the attacks of abdominal pain. Whatever value may be attached to the treatment by tuberculin—and I certainly agree that the method is of great service—it is obvious that the presence of so large a focus, together with consistent infection, negatived to a great extent the effect on the known vesical tubercle. The ureter was left in this case chiefly because we did not wish to prolong an operation already severe, and, moreover, experience had shown that a tuberculous ureter will recover. At the same time, I may here express the opinion that the better practice is to remove the ureter as a routine addition to nephrectomy.

The operation was followed by a normal temperature and almost complete disappearance of pus from the urine, though in no immediate relief to the vesical irritation. The chart shows a normal temperature from the day of operation for the first week, with a pulse of from 78 to 84. Then ensued some suppuration in the wound with a rise of temperature and evening restlessness. By the end of the fourth week the patient was moved on to a couch and into another room and mended rapidly in general health.

Much opposition had been raised to operation by one of her medical attendants, the view being held that little good was likely to accrue, the disease probably being bilateral. Convinced, however, of the unilateral character of renal tuberculosis as a rule and, moreover, that the patient's general condition would bear even nephrectomy, operation was urged and consented to. And here it is a pleasure to record the great assistance given at a critical moment of the operation by her medical attendant. He gave chloroform in the most perfect manner and when the question of removal or drainage had to be decided he supported the complete operation, as in his judgment the patient was showing no signs of distress—a true loyalty to the best interests of the patient.

The urine was examined by Dr. G. L. Eastes on Dec. 3rd, about 14 days after operation. The reaction was acid, the specific gravity 1019, there was a small amount of albumin, and a minute trace of blood. Microscopically a little pus accompanied by a few red blood discs was present. A careful search for casts proved negative and no tubercle bacilli were found. This was a most satisfactory report in view of the fact that vesical tubercle was known to exist at the time of the operation. A fortnight later, on Dec. 12th, an examination was made by the Clinical Research Association with very much the same result, again no bacilli being found. The disquieting feature remaining was the frequent micturition, pointing to a continuance of the vesical ulceration, or possibly to the ureter as determining this symptom. On Dec. 29th it was reported that the frequency was gradually lessening and was then from 16 to 18 times a day instead of from 26 to 28, and that the interval had been as long as three hours. The urine amounted to 50 ounces per day and still contained a little albumin. She was more cheerful and taking food well.

On Jan. 8th last, seven weeks after operation, I visited the patient and found a great improvement in her general condition. She had gained in weight, had lost all appearance of illness, was taking her food well, and sleeping without drugs. The pulse was always about 72, though the temperature still hovered about 99°. The sinus in the loin, though giving little trouble, will no doubt continue to discharge till the ligature comes away. We decided to resume the tuberculin injections. I will refer to the inaccuracy of the cystoscopic evidence in the next lecture.

The last case to which I will refer is of interest—first, because of the occurrence of hyperpyrexia due to renal suppuration without local pain, and next because of the method employed to ascertain the part affected. As the case occurred just over ten years ago it represents fairly well the methods then relied upon, methods that are still applicable and which may have still to be employed.

CASE 5. *Renal tuberculosis, rigors and hyperpyrexia; laparotomy; nephrectomy followed by ureterectomy; recovery.*—The patient, a female, aged 33 years, was first seen in July, 1896, for frequent micturition accompanied with pain. This had existed for many months. She suffered also from hæmorrhoids. The urine contained a little pus and some albumin. Treatment on the usual lines not giving relief the hæmorrhoids were removed and the bladder was explored by the sound and finger without gaining any information. It was hoped that the vesical irritation might be reflex. Instead it increased and began to interefere with her duties. The general health was good and her appetite was unimpaired. In May, 1897, whilst on a visit in Leicestershire, she was taken ill with rigors and pyrexia. The rigors occurred every two or three days, the temperature reaching 105° F. and over. For two months this illness continued without any cause being discovered. She was then brought to London and placed under my care in a condition of grave illness. She was greatly emaciated, the lips were covered with sordes, she wandered at night, the tongue was dry and brown, the temperature usually remained at from 103° to 104°, and there was a severe rigor every few days. The condition was one of severe septicæmia. Beyond the frequent micturition

there was and never had been any complaint of local pain or uneasiness. Knowing the history, renal infection naturally occurred to me as a likely explanation of the condition, but there was no enlargement of either organ to be felt and the urine, though passed frequently, contained only a little pus. She had, moreover, lasted too long for a case of renal pyæmia. Thinking that there might be some septic condition of the uterine appendages I asked my colleague, Dr. P. Horrocks, to see her with me, but he was unable to discover any pelvic cause, nor could anything be found in the chest. Pylephlebitis and cholecystitis, both of which conditions I had seen cause pyrexia and rigors without local pain for a long time, were excluded. It became necessary to make some attempt to discover the source of infection, and suspecting the urinary tract I decided to open the abdomen and explore these parts.

In July an opening was made below the umbilicus and the pelvis was examined for a cyst, or a sacculus, or tubal disease without result. Of the two kidneys the left was the larger and was also soft in places and irregular. Upon this information the left loin was opened and the kidney exposed. A large trocar and cannula was thrust in but to our disappointment no pus escaped. As the organ was certainly enlarged it was now freely incised and the finger thrust in, when a considerable amount of pus was evacuated from several cavities. Nephrectomy in the circumstances was not advisable, so a large drain was inserted and the abdominal wound was closed. All the serious symptoms at once disappeared and recovery, though slow, was complete as far as general health was concerned.

In November (four months later) the kidney was removed and showed the usual appearances of tuberculosis. The ureter, very thickened, was ligatured and the silk brought out through a rubber drain, into which the end of the ureter was drawn. The ligature came away some eight months after operation but the loin sinus persisted, as did the vesical irritation. The question now arose whether the vesical irritability was due to tuberculosis of the bladder or to the ureter, which latter probably kept up the loin sinus. Examination by Kelly's method not revealing tuberculosis of the bladder the ureter was removed in December, 1898, by a long incision through the muscles. It was much enlarged and the lumen was dilated. The vesical irritability disappeared almost at once, the loin sinus closed, she improved in health, and is now (February, 1908) leading an active life and I am glad to say without any weakness of the scars.

I have thought this case worthy of being given in detail, first because of its rarity, and secondly, because the method taken to discover the cause of the general pyæmic infection may still have to be resorted to. Again, the complete recovery from tuberculosis is interesting as is the fact of the immunity of the bladder from infection, though tuberculous pus must have entered this viscus for over three years. At the present time employment of the newer method would no doubt have indicated the cause of the vesical irritation and led to earlier nephrectomy.

# The Hunterian Lectures

ON

# THE SURGERY OF THE SPINAL CORD AND ITS MEMBRANES.

*Delivered before the Royal College of Surgeons of England*

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## LECTURE III.[1]

*Delivered on Feb. 28th, 1908.*

### TUMOURS INVOLVING THE SPINAL CORD.

MR. PRESIDENT, LADIES, AND GENTLEMEN.—Before commencing my lecture upon "Tumours Involving the Spinal Cord," I wish to express my thanks to my colleagues of the National Hospital for the Paralysed and Epileptic for the great assistance which they have rendered me in the preparation of this lecture by so kindly placing the records of their cases at my disposal. It is upon these cases, but more particularly those which I personally have been called to operate upon, that this lecture will be largely based. I also desire to take this opportunity of acknowledging my great indebtedness to my friend and colleague Sir Victor Horsley, to whose teaching and practice during my association with him I owe so much.

The tumours dealt with fall into the following groups:—

I. Tumours which are primary in the coverings of the cord, secondarily involving the cord itself.
   (*a*) Primary in the vertebral column or in the soft tissues surrounding it (*vertebral*).
   (*b*) Tumours of the membranous coverings of the cord (*intravertebral*).
   *Extramedullary.*
   1. Originating from the periosteum of the vertebral canal, from the external surface of the dura mater, or from the extradural fatty tissue (*extradural*).
   2. Originating from the inner surface of the dura mater, the arachnoid, the ligamentum denticulatum, nerve roots, or pia (*intradural*).

II. Tumours originating from the spinal cord itself (*intramedullary*).

Tumours partly outside and partly within the vertebral column may be taken as a special subdivision, as in most cases there is a narrow connexion between the two portions in the intervertebral foramen. Such forms occur in echinococcus, sarcoma, enchondroma, and lipoma. According to Schlesinger Group I. (*a*) is the most common. Groups I. (*b*), 1 and 2, and II. are true spinal tumours.

*Vertebral tumours.*—These may be benign or malignant, the latter being primary or secondary. The majority of them are malignant; the ratio between benign and malignant being 1 to 10. Of malignant tumours the larger number are carcinomata. Carcinoma is never primary in the spinal column, usually reaching it by means of metastases, though in rare cases carcinoma of the stomach, œsophagus, and prevertebral lymphatic glands spreads directly to the vertebræ. Metastases proceed most often from mammary carcinoma, next in frequency from the œsophagus and thyroid gland, then follow the uterus, bronchi, stomach, prostate, and gall-bladder. The frequency of metastasis from primary mammary carcinoma explains the fact that vertebral carcinoma is much more common in women than in men. Of Bruns's 16 cases there was only one man in whom the diagnosis was doubtful both in relation to the carcinoma of the vertebral column and the primary focus. Of the 15 women 12 had primary mammary carcinoma, one gastric, one thyroid, and one supraclavicular. My 13 cases of carcinoma do not show this sex preponderance to so marked a degree, for eight were females and five were males. Of the eight females seven were secondary to breast carcinoma. Of the five males one each was secondary to kidney, to prostate, and to lung, and two were unknown. One half of the cases were in the fifth decade of life. The interval between the onset of the primary carcinoma and distinct symptoms of involvement of the vertebral column varies considerably. But the length of time after involvement of the spine is short, the average in my cases being about seven months.

Metastatic cancer may appear in any part of the vertebral column, the dorsal being most often affected. From the vertebral bodies the carcinomatous masses spread to the lateral portion, especially the intervertebral foramen, and into the extradural region. In the intervertebral foramen compression of nerve-roots follows, as the carcinomatous masses compress the nerves or invade the root ganglion. In the extradural spaces the nerve roots and spinal cord may be injured by compression. Carcinoma may perforate the dura mater. The metastases correspond histologically with the primary growth.

Sarcoma may be primary or secondary and occurs in every form. When primary it may be either endosteal or periosteal. The former usually begins in the cancellous tissue of the body of the vertebra; the latter begins either in connexion with the body or some part of the vertebral arch. A periosteal origin appears to be more common than an endosteal, though Howard Marsh thinks the latter more frequent. Sarcoma may also originate in the neighbouring soft tissues. When secondary, sarcoma comes most often from other bones. In whatever way the disease originates it usually undergoes rapid development, and but few of those attacked by it survive more than from three to six months. The shortest course of my 12 cases was two months, which occurred three times, the longest was 15 months; the average course was six and a half months. In my cases the sarcoma was primary either in the bones of the vertebral column or in its immediate neighbourhood, invading the canal by direct extension. Thus, one began in the

[1] Lectures I. and II. were published in THE LANCET of March 7th (p. 693) and 14th (p. 765), 1908, respectively.

tissues of the neck and extended into the vertebral canal through the intervertebral foramina. In one case the dura mater was invaded and the growth appeared in the subdural space. But this appears to be rare, though occurring more frequently than in carcinoma. In many cases the dura mater escapes involvement throughout. In one or two cases the disease gave rise to visible or palpable tumours in the column; otherwise there were no signs beyond the neurological localisation as to the precise position of the growth. Of my 12 cases of sarcoma of the vertebral column, with secondary involvement of the spinal cord, seven were females and five were males. The youngest was a girl, aged 13 years, and her illness lasted only eight weeks. The growth involved the cauda equina but did not affect the cord itself. Four of the cases were under 20 years of age. One of my cases was a myeloid sarcoma in the lumbar region. This form is usually regarded as extremely rare in the vertebral column. Benign tumours of the vertebral column are rare. Exostosis and osteoma when growing in an inward direction and occupying the vertebral canal may lead to lesions of the spinal cord and nerve roots. Enchondromata are very rare and reach the canal through the intervertebral foramina. Weber in 237 cases of enchondroma of bone was only able to find one case in which the tumour originated in the vertebræ. Wharton has only found four recorded cases, one each by Weber, Virchow, Wrench, and Forderl. Multiple myelomata are more common. In these cases the medullary spaces of a large number of the vertebræ are filled with masses of lymphatic osseous tissue, the bones becoming very soft and the column kypho-scoliotic. The cord is almost invariably injured either by compression or by penetration of tumour masses into the canal. Other bones are usually affected. Echinococcus cyst is primary in the bodies of the vertebræ in very rare cases and may produce acute compression of the spinal cord. This subject will be referred to later.

*Symptoms.*—The symptoms of malignant disease of the spinal column fall into those connected with the bone, the nerve roots, and the spinal cord. In the bones there is more or less localised pain, which may be constant or intermittent. It may be felt on definite movements, and the resulting avoidance of movement leads to stiffness. If the metastases are limited to the centre of the vertebral bodies pain may be almost completely absent. It is particularly pronounced on movement when the lateral and posterior portions of the vertebræ are involved. According to Edes the pain in sarcoma of the spine is not nearly so severe as that of carcinoma. In over half my cases the first symptom complained of was pain localised in the vertebral column; only rarely was it referred to the distribution of nerve roots. This is in marked contrast to what one finds in true spinal cord tumours. Deformity also occurs. *Entassement* (piling up) is a marked clinical sign, whilst the gradual decrease of height in the upright position is of great importance. Bone symptoms are of great significance in relation to an early diagnosis in carcinoma, in which they usually appear first, though it must be understood that they may be entirely absent. Root symptoms result either from compression or direct infiltration of nerve roots. The most important are sensory symptoms of irritation and intense pain, usually of a typical neuralgic character, not seldom associated with considerable hyperæsthesia of the skin. The pain is of a most vicious character, coming on at first at intervals, which finally become shorter until there is continuous agonising pain. Root symptoms are present in about 60 per cent. of the cases. These symptoms in most cases are bilateral, though they may remain unilateral for a considerable time if the growth commences on one side. The site of the root symptoms is dependent upon the level of the column involved. The symptoms produced by compression of the cord are similar to those of compression by any other means, their appearance and significance being dependent upon whether the compression is produced by sudden sinking of the column or gradually by extradural malignant masses. They are rarely those of a unilateral lesion. Long-standing limitation to bone and root without cord symptoms is very common, as are also cord and root without bone symptoms. It most often happens that after the pain and root symptoms have existed for a time with very great individual variations in intensity, extent, and duration, paralysis from compression of the cord occurs, either suddenly, as is the rule, or it comes on gradually. Benign tumours do not cause destruction of bone, and symptoms of involvement of the nervous system are only present in those cases in which the tumour grows within the vertebral canal. The clinical picture then exactly resembles that of an ordinary extrathecal spinal cord tumour.

*Site.*—Turning to the region most frequently affected it will be seen that this is the dorsal, both for carcinoma and sarcoma. Next in frequency comes the lumbar, and then the sacral. Of my 25 cases the growth was in the dorsal or lumbar region in 19. This bears out the experience of other observers.

*Diagnosis.*—The diagnosis between vertebral and intravertebral tumours is often very difficult. If bone symptoms first appear, then those referred to the roots, and lastly to the cord, there will be no doubt as to the diagnosis. In typical tumour of the membranes root symptoms appear first, then medullary symptoms, and lastly, those referred to the spinal column. From my own observations I should say that the rapidity with which the disease progresses is a most important point in diagnosis between vertebral and true spinal-cord tumours. In the former there is usually a rapid development of the clinical picture which steadily progresses with marked constitutional disturbance; while the latter are essentially of slow progress, with remissions, the symptoms developing gradually in more or less orderly sequence and without any marked constitutional effect. Positive demonstration of the metastatic nature of the trouble in the spinal cord or column is of the greatest importance in the diagnosis, at any rate, in so far as carcinoma or sarcoma comes into consideration. But this is not always possible. It is always to be borne in mind that in the early stages the symptoms of a new growth in the vertebral column may be indistinguishable from those of Pott's disease. Yet on close examination certain differences may be observed which should arouse a strong suspicion as to the real nature of the case.

The diagnosis of the level of the tumour is in most cases easy, because definite symptoms in relation to the vertebral column are present. If these are absent the diagnosis must be made from the signs of compression of the nerve roots and cord. As regards the kind of tumour, carcinoma is invariably metastatic from a growth in a more peripheral position. The same occurs with sarcoma, but this often breaks through the column in an outward direction or produces tumour masses on the anterior or posterior periphery of the column. It also occurs in children. Echinococci may be assumed if they can be demonstrated in other parts of the body or if puncture near the vertebral column shows echinococcus vesicles. Osteoma and exostosis may be recognised if multiple exostoses are found in other parts of the body. The pains in the bones are also often wanting in these cases. Multiple myeloma is characterised by symptoms of osteomalacia in other bones and albumoses in the urine. Gumma may only be diagnosed when there is definite evidence of syphilitic infection and in this connexion the effects of anti-syphilitic treatment also come under consideration.

The prognosis in carcinoma, sarcoma, and myeloma is absolutely bad, the termination being unavoidably a fatal one. Exception must be made in those rare cases in which sarcoma is localised in a spinous process or vertebral arch. Here the disease, if recognised early, can be removed by operation. Echinococcus cysts may be removed by operation and gummata by antisyphilitic treatment. Exostosis may possibly come to a standstill or may be removed by operation.

*Treatment.*—Needless to say, antisyphilitic treatment should be energetically employed in gumma, and in sarcoma and carcinoma the exclusion of syphilis should be made certain. Surgical measures should be avoided in carcinoma, as complete removal of the disease is impossible. This applies in a measure to sarcoma, unless limited to the vertebral arches or spinous processes, when removal may be attempted. If the diagnosis between vertebral and intravertebral tumour is doubtful owing to the cord symptoms being slight operation should be undertaken in order to make it certain. In inoperable cases section of a number of the posterior roots is sometimes indicated for the relief of pain, chiefly in relation to sarcoma.

*Intravertebral tumours.*—Extradural tumours are often metastatic, intradural mostly primary. Extradural tumours very rarely perforate the dura mater. Of primary extradural tumours, lipomata are said by Bruns to be the most common, but this certainly is not borne out by other observers, sarcomata being by far the most common. Echinococcus is very frequent, though not usually primary in this

situation. Intradural echinococcus is extremely rare. Thus in Schlesinger's table, if we exclude echinococcus, of 36 extradural meningeal tumours 17, or nearly one-half, were sarcomata. In the same way in my own series over one-half are sarcomata.

Intradural tumours originate from the inner surface of the dura mater, the arachnoid tissues, the outer surface of the pia mater, or the ligamentum denticulatum, and not infrequently from individual nerve roots. All forms of connective-tissue tumours occur, fibroma, myxoma, sarcoma, fibromyxoma, fibrosarcoma, angiosarcoma, as well as psammoma. Endothelioma occurs on the inner surface of the dura mater as multiple small tumours, or more frequently as an isolated growth from the posterior root of a spinal nerve. Neurofibroma and neurosarcoma also occur and are usually multiple, and often associated with tumours of the cranial nerves, the plexuses, and spinal nerves. Tubercle occurs intradurally in the form of circumscribed solitary tubercles and of tuberculous caseous meningitis. Circumscribed gummata are very rare, and are usually connected with the pia mater. Histologically these tumours do not differ from similar ones in other parts of the body. Their consistence is fairly dense and they are harder than the cord. The diffuse extradural sarcoma is often soft and very vascular. While extradural growths are flat or cylindrical in form the intradural usually accommodate themselves to the space in which they develop. At first they are usually spherical and their centre may be formed by a spinal root. Later, they grow chiefly in a longitudinal direction and most frequently lie in a lateral or postero-lateral position to the cord. The cauda equina is the only region in which a tumour can grow to a fairly large size without destruction of the cord.

Tumours of the membranes exert an injurious influence in three directions: on the bones of the vertebral column, the nerve roots and the substance of the cord, the order of involvement being, as a rule, the roots, the cord, and the bone. The bone lesions are usually not severe, mostly slight erosion of the bone on the inner surface of the vertebral canal or a slight periostitic process. According to Schlesinger, however, neurotrophic changes may occur without erosion of the bone which may lead to kyphosis. A flat, extensive, extradural tumour may produce root lesions only throughout its whole course and a diagnosis of caries may be made owing to the slight pain and stiffness of the column. The circumscribed round or cylindrical tumour situated within the dura mater runs usually a typical course, commencing with symptoms due to the root lesion and then those related to the cord, the roots being first irritated and then destroyed and atrophied. Nerve roots are, however, very resistant even to sarcoma, while neuroma may not at first materially interfere with their functions.

Of the intramedullary tumours the tuberculous are the commonest and, according to Gowers, are chiefly in the grey substance of the cord; glioma comes next in frequency, then sarcoma. Gummata, though usually connected with the pia mater, are also found in the cord and are usually situated in the portion of the cord posterior to the central canal. Primary intramedullary tumours are usually isolated but tubercle is an exception, for there may be many small nodules near large ones. Gummata, too, may be multiple, though rarely so. In one of my cases it was so, gummata being found in the cervical and dorsal cord, on the nerve roots, and cauda equina. Gliomata may exhibit the picture of syringomyelia, though in other cases they are more compact and produce true tumour symptoms. The other tumours mentioned are sharply defined from the nerve substance but often show at their periphery a narrow zone of softening in the cord.

Up to the end of the nineteenth century tumours of the spinal cord had only a pathological interest and what was known previously to this time was due to the researches of Hasse, Lebert, Cruveilhier, and Virchow. Leyden, in the year 1872, first considered the possibility of operation on a tumour of the cord in which the local diagnosis had been made, and in the year 1874 he gave the indications for operative measures in such cases. In a similar theoretical manner Erb, in 1878, and Gowers, in 1886, recommended operation where the diagnosis was established. In 1887 Gowers correctly diagnosed, and Victor Horsley successfully removed by operation, a fibromyxoma at the fourth dorsal segment, and proof was thus furnished that what previous authors had hoped was really practicable and that with the help of surgery good results might be obtained in this difficult and, from a therapeutic point of view, previously unknown region.

*Occurrence.*—Statistics show that tumours affecting the cord are comparatively rare. Schlesinger found only 147 in 35,000 necropsies and 151 in 6540 tumours. The ratio to tumours of the brain is 1 to 13. Malignant tumours are much more frequent than benign tumours, according to Schlesinger the proportion being 10 to 1. I have collected 57 cases of spinal cord tumour from the records of the National Hospital for the Paralysed and Epileptic. Only those cases which came to operation or necropsy and in which the nature of the tumour was verified by microscopical examination are included. Extradural tuberculous granulomata, secondary to spinal caries, have been excluded.

*Age.*—Intravertebral tumours occur at all periods of life. Children are subject to them, as they are to brain tumours. Of Starr's 100 cases 30 occurred under the age of 15 years and 70 above 15 years. The youngest case in my series is nine years of age and the oldest 65. No age is peculiarly liable, though special forms are more common at certain ages. The following table, constructed from Bruns's figures, shows the most frequent form of tumour occurring at various ages:—

| Age. | Intramedullary. | Extramedullary. |
|---|---|---|
| Under 10 years | Solitary tubercle. | Lipoma, metastatic sarcoma and gliosarcoma. Tumours complicating spina bifida. |
| From 10 to 20 years | Tubercle and glioma; primary sarcoma rarely. | Sarcoma, echinococcus, multiple neuroma. |
| ,, 20 to 40 ,, | Tubercle and glioma. | Sarcoma, echinococcus. |
| ,, 40 to 60 ,, | Gumma more common than tubercle. | Sarcoma, psammoma, fibroma, echinococcus. |
| Over 60 years | — | Psammoma, fibroma. |

Children are more liable to tuberculous tumours than any other, glioma being the next in frequency. From 40 to 60 years is the age of comparatively benign slow-growing isolated tumours of good operable prognosis. On the whole, it may be said that the older the individual the more favourable the prognosis.

The age incidence in my collection of cases is seen in the following table:—

*Age Incidence of Tumours Involving the Spinal Cord.*

| — | Vertebral carcinoma. | Vertebral sarcoma. | Spinal tumours. | Medullary. | Intradural. | Extradural. | Both. |
|---|---|---|---|---|---|---|---|
| Under 10 years ... ... | — | — | 1 | 1 | — | — | — |
| From 11 to 20 years... | — | 4 | 10 | 2 | 3 | 4 | 1 |
| ,, 21 to 30 ,, ... | — | 1 | 11 | 3 | 5 | 3 | — |
| ,, 31 to 40 ,, ... | 1 | 3 | 12 | 4 | 5 | 3 | — |
| ,, 41 to 50 ,, ... | 6 | 1 | 17 | 2 | 10 | 4 | 1 |
| ,, 51 to 60 ,, ... | 2 | 2 | 5 | 1 | 4 | — | — |
| ,, 61 to 70 ,, ... | 3 | 1 | 1 | — | 1 | — | — |
| ,, 71 to 80 ,, ... | 1 | — | — | — | — | — | — |
| — | 13 | 12 | 57 | 13 | 28 | 14 | 2 |

This shows that every decade up to and including the seventh is liable to spinal cord tumours. Though tubercle is by far the commonest form under ten years of age the tumour at this age in my series was a sarcoma. The liability to spinal tumours, judging from this table, would appear to increase gradually from about 15 to 50 years of age and then to decrease rapidly.

*Sex.*—It is said that the sexes are equally liable. But of my series of 57 cases 37 were males and 20 were females. The order of frequency and the situation are shown in the next table.

It will be seen that the extramedullary tumours are over four times as frequent as the intramedullary, 44 of the former to 13 of the latter. Of the extramedullary the intradural are exactly twice as frequent as the extradural. This is in keeping with the usual experience regarding spinal

*List of 57 Tumours of the Spinal Cord, showing Order of Frequency and Situation.*

| — | Medullary. | Intradural. | Extradural. | Both. | Totals |
|---|---|---|---|---|---|
| Sarcoma | 4 | 2 | 5 | 1 | 12 |
| Endothelioma | — | 5 | 1 | — | 6 |
| Echinococcus | — | — | 5 | — | 5 |
| Gumma | 2 | 3 | — | — | 5 |
| Fibromyxosarcoma | — | 3 | 1 | — | 4 |
| Fibrosarcoma | — | 4 | — | — | 4 |
| Fibromyxoma | — | 2 | 2 | — | 4 |
| Glioma | 3 | — | — | — | 3 |
| Tubercle | 2 | — | — | — | 2 |
| Cyst | — | 2 | — | — | 2 |
| Myxoma | — | 1 | — | — | 1 |
| Psammoma | — | 1 | — | — | 1 |
| Psammosarcoma | — | — | — | 1 | 1 |
| Fibroma | — | 1 | — | — | 1 |
| Angioma | — | 1 | — | — | 1 |
| Cylindroma | — | 1 | — | — | 1 |
| Uncertain | 2 | 2 | — | — | 4 |
| — | 13 | 28 | 14 | 2 | 57 |

cord tumours. Of Schlesinger's collection of 400 cases 126 were intramedullary and 239 extramedullary; while of the extramedullary, 151 were intradural and 88 extradural. In Williamson's 110 cases collected from the literature, 52 were intradural and 58 extradural; but he includes under "extradural" cases which were obviously really vertebral tumours. It will also be seen from this table that sarcoma has been more frequently found than any other form of tumour, endothelioma being next in order. The cases of echinococcus will be referred to later. Taking all the tumours showing sarcomatous structure, there are 21 out of 57. It is found much more frequently arising from the membranes than within the cord itself. In two cases only was it both extra- and intra-dural. Of the endotheliomata five were intradural and grew from a posterior nerve root. Endotheliomata in relation to the spinal cord appear to arise most frequently in connexion with a posterior nerve root, growing from the arachnoid at the angle of its reflection on to the inner surface of the dura mater. Of the intramedullary tumours four were sarcomata, three gliomata, two tubercle, and two gummata. Thus sarcoma has occurred in the meninges twice as frequently as in the cord. Glioma is not so frequent in the spinal cord as in the brain, though showing exactly the same structure. It is not to be confounded with gliomatosis or gliosis spinalis, although it may complicate that disease. All three of my cases occurred in the cervical enlargement, and all were males. Though tubercle is most commonly seen in children under ten years of age and is intramedullary, it may occur at any age. One of my cases was a man, aged 35 years, and the other a woman, aged 57 years. In both instances the course of the disease was short—viz., two and seven months respectively—bearing out the usual experience in cases of intramedullary tubercle. Of the five cases of gummata three were males and two were females. Of the cysts both were arachnoid and in the dorsal region. One had symptoms for three years and the other for two and a half years. Both were cured by operation. Of the two tumours, both extra- and intra-dural, one was a sarcoma, the other a psammosarcoma.

Only one other tumour requires special mention and that is the one I have classed as cylindroma. It was growing among the roots of the cauda equina. I am greatly indebted to Mr. S. G. Shattock for the following description of the histological characters of this interesting tumour. "The structure of the growth is much obscured by widespread and uniformly distributed degeneration, the unaltered cells being dispersed in strands around cylinders of degenerate tissue. The groups of undegenerate cells are composed of somewhat large polyhedral elements with oval vesicular nuclei and permeated with a certain number of delicate processes which are to be seen where the cells are not closely packed together. The material arising from the cell degeneration is devoid of organised structure and consists of a vacuolated pseudo-fibrillar substance. The tumour is vascular to a pronounced degree and in many instances a vessel lies centrally in the cylinder of structureless material, showing that it has been isolated by the degeneration of the cells in its immediate neighbourhood. The cells of the growth would pass for those of neuroglia and the degeneration is such as may be seen in gliomata of the central nervous system in which softening is in progress. The growth I should be disposed to class as a glioma, the degeneration of the cells of which, about the vessels more particularly, has led to a distribution of degeneration products of the kind sometimes indicated by the use of the term cylindroma. The new formation would if this expression were used at all be a cylindromatous glioma. The gliomatous character of the tumour may be accounted for by supposing it to have originated in connexion with the nervous matter of the filum terminale." It would appear therefore to have been more correctly classed as a glioma. Of the four "uncertain" tumours, three were exposed by operation but not removed; the remaining one (intradural) was removed but not microscopically examined.

*Regional distribution.*—The situation of intramedullary tumours is usually in the cervical or lumbar enlargements of the cord and that of extramedullary or meningeal tumours chiefly in the dorsal region. The regional distribution of my cases is seen in the following table:—

*Regional Distribution of Tumours Involving the Spinal Cord.*

| — | Vertebral carcinoma. | Vertebral sarcoma. | Spinal tumours. | Medullary. | Intradural. | Extradural. | Both. |
|---|---|---|---|---|---|---|---|
| Cervical | — | 1 | 11 | 5 | 5 | — | 1 |
| Cervico-dorsal | 1 | — | 2 | — | 1 | 1 | — |
| Dorsal | 5 | 4 | 27 | 4 | 13 | 10 | 1 |
| Dorso-lumbar | 2 | 1 | 3 | — | 1 | 2 | — |
| Lumbar | 4 | 3 | 6 | 3 | 2 | — | — |
| Cauda equina | — | — | 7 | — | 6 | 1 | — |
| Sacrum | 1 | 3 | — | — | — | — | — |
| Diffuse | — | — | 1 | 1 | — | — | — |
| — | 13 | 12 | 57 | 13 | 28 | 14 | 2 |

It bears out the frequency of the medullary tumours in the cervical and lumbar enlargements. The four dorsal medullary tumours in the table were tuberculous, sarcoma, gumma, and "uncertain." The dorsal region as a favourite site for extramedullary tumours is well shown here. The situation of a tumour, however, does not throw much light upon either the diagnosis or prognosis regarding operation. Tumours are much more often situated upon the posterior and lateral surfaces of the cord than upon the anterior surface, which is a great advantage from a surgical point of view.

The following table, constructed from my series of cases, shows the most frequent forms of tumour found in various parts of the cord:—

| Region. | Intramedullary. | Extramedullary. |
|---|---|---|
| Cervical. | Tubercle, glioma. | Sarcoma, fibrosarcoma, endothelioma. |
| Dorsal. | Tuberclesar, coma. | Sarcoma, endothelioma, echinococcus, fibrosarcoma, fibromyxosarcoma, fibromyxoma. |
| Lumbar. | Gumma, sarcoma. | Sarcoma, echinococcus. |
| Cauda equina. | — | Fibromyxosarcoma, lymphangioma, angioma, cylindroma. |

From this table the widespread incidence of sarcoma is apparent. It appears in some form in every region of the cord, either as a medullary growth or growing from the meninges. The lower part of the cord, as the chief seat of election of gummata, is also shown. All cases of specific disease in my series were situated below the dorsal region. In the cord syphilitic tumours commonly originate from the pia mater, as they do in the brain. As before stated, they are most frequently found in the portion of the cord posterior to the central canal. Sir William Gowers has called attention to the fact that they may develop during continuous

treatment by full doses of iodide, although earlier symptoms may have been removed by it. According to Bruns, lymphangioma, angioma, and cylindroma are common in the cauda equina, but rare elsewhere. They are often, however, associated with other varieties of tumour in other parts of the cord.

The occurrence of hydatid disease most frequently in the dorsal and lumbar regions may be due to the fact that this part of the vertebral column is most often the seat of injury. True metastases from spinal cord tumours scarcely ever occur in other parts of the central nervous system or other organs. The simultaneous occurrence of tumours in the brain and spinal cord is, however, not rare. A specimen illustrating this is here shown from the museum of the National Hospital. The patient was under the care of my colleague Dr. Beevor. The primary tumour, a fibro-sarcoma, is situated in the left lobe of the cerebellum, the secondary growths being in the filum terminale, the anterior and posterior nerve roots, and in the posterior root ganglia. Stanley Barnes describes in detail two such cases and gives an account of nine others reported by different observers. He holds that "in general it remains impossible to give any accurate diagnostic signs of the condition; but it seems clear that if a patient who is known to present the signs of unlocalisable cerebral tumour develops well-marked pains in the limbs and trunk, with early loss of deep reflexes and rapid wasting, the presence of disseminated growth in the spinal pia and posterior root ganglia should be suspected. In such cases it would be well to examine also the ventricular lining, in case the less obvious gelatinous growths which occur in this situation may be overlooked." Barnes comes to the following conclusions:—

1. If a growth originates in the caudate nucleus or in any other part of the brain, and eventually finds its way to the lining of the ventricular cavities, it may "infect" the cerebro-spinal fluid. Metastatic growths may then occur in the following situations: (1) in the lining walls of the lateral, third or fourth ventricles; (2) in the meninges (subarachnoid) at the base of the brain; (3) in the pia mater and arachnoid around the spinal cord; and (4) in the posterior root ganglia, particularly of the cauda equina.

2. In all probability diffuse sarcomatous infiltration of the spinal pia-arachnoid, which is occasionally found post mortem, is in all cases the expression of a sarcomatous infection of the cerebro-spinal fluid, as a result of some primary growth, which lies exposed to the stream of the cerebro-spinal fluid high up in the nervous system.

3. The regions occupied by such secondary growths are exactly the same as those influenced by tuberculous meningitis after the rupture of a tuberculous "tumour of the brain."

Both extradural and intradural metastatic carcinoma are rare and when present are always multiple. Retinal glioma may give rise to multiple metastases in the membranes and cord. These metastatic tumours tend to extend in a flat form, large patches of the cord being covered with a cylindrical mantle, though the cord does not seem to be severely compressed nor the roots materially injured thereby. Even in these circumstances direct entrance of the tumour into the cord is rare. This is especially true of sarcoma, whether primary or metastatic. However, tumours of the membranes may reach the cord by means of the pia mater. While rare in carcinoma and sarcoma, it is more common in syphilis and in tubercle.

*Etiology.*—Concerning the etiology of tumours of the spinal cord we know as little that is sure as of those in other organs. The etiology of the infective granulomata, tubercle, and gummata, of parasitic cysts and metastatic tumours, is fairly clear, though why the primary tumours or the metastases should involve the cord or its coverings is not certain. It may be certainly said that tubercle and gummata in tuberculous and syphilitic individuals have a preference for developing in tissues affected by trauma, and Schlesinger assumes that this is true of echinococcus. Glioma may also be said to be related to trauma, especially when there is cavity formation. But in this latter case the congenital predisposition or condition should not be lost sight of, the trauma being probably only the determining cause. While of primary spinal cord tumours it can only be said that the symptoms in many cases first manifest themselves after injury, it appears certain that in metastases from malignant tumours injury of a part conduces to a metastasis in that part.

*Course and result.*—Tumours of the spinal cord, especially the intradural ones, are eminently chronic in their course. The root symptoms often existing for years before those of the cord or vertebral column occur. After the onset of cord symptoms the course is usually more rapid. Malignant tumours grow in most cases more quickly than benign, death occurring sooner with them. This applies particularly to malignant disease of the vertebral column affecting the spinal cord. In my series of 13 cases of carcinoma of the spine the average duration of life after the onset of symptoms was just under eight months, the longest being 18 months and the shortest two months. Of 12 cases of sarcoma of the spine the average duration of life was seven months, the longest being 15 months and the shortest two months. The average length of my 57 spinal cord cases was 23 months. The longest was 15 years in an extradural fibromyxosarcoma in the cauda equina region; the shortest, six weeks in a case of hydatid disease. One other case of hydatid disease was of ten years' duration. Of intradural tumours the longest course was five years, a fibroma growing from the first lumbar root; the shortest was three months in a myxoma growing from the tenth dorsal posterior root. The average was 20 months. Endotheliomata appear to be slow-growing tumours. Two were of three years' duration; one, one year; one, eight months; and one, six months. The average is 19½ months. Schlesinger calculates for intradural tumours a duration of about 26 months; Horsley 29 months. Isolated sarcoma, fibroma, and psammoma run the longest course of intradural tumours; 24, eight, and 14 years having been observed. The longest course of an intradural tumour under my own care was one of two and a half years. It was in a man, aged 30 years, who was admitted under the care of Dr. W. Aldren Turner, in whose absence abroad Dr. E. Farquhar Buzzard had charge of the case. The patient was completely paraplegic, with incontinence of urine and fæces. I successfully removed an elongated fibrosarcoma which was growing from the second dorsal posterior root. He made a steady convalescence and was able to walk when he left the hospital.

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Of intramedullary tumours, tubercle and gummata have the shortest course, according to Bruns nine and seven and a half months, while sarcoma and glioma have two years or more.

Of the medullary tumours of my series, the two longest were of three years' duration each, the nature of which is uncertain. The shortest was a tuberculous growth of two months' duration, the next a glioma of four months. The longest course of my own operation cases is three years. I exposed in a girl, aged 14 years, under the care of Dr. Batten, an intramedullary tumour growing at the level of the sixth cervical segment. Any attempt to remove it would have resulted in greater functional damage to the cord than the tumour was causing, so the wound was closed. The patient recovered but obviously without any improvement in her condition.

Apart from operative interference, death is the almost certain result of spinal cord tumours. Cystitis, leading to pyelitis and pyelonephritis, occurs in the last stages. In high-seated tumours paralysis of respiration may lead to a fatal result.

*Symptoms.*—Of my 57 cases pain was the first symptom in 39 cases. In practically all cases it was referred to the distribution of the nerve roots. In 14 cases the first symptom was weakness in one or other upper or lower limb. "There is no other disease which causes such definitely localised recurring and persistent pain as tumour of the spinal cord, and in any case in which pain is continued for over a month in one particular part of the body, there being no local disease to explain it and no evidence of spinal caries or carcinoma, a tumour of the spinal cord should be suspected." (Starr.) This statement is fully borne out by my series of cases.

### HYDATID DISEASE CAUSING PARAPLEGIA.

Compression paraplegia due to spinal hydatid cysts is not a rare affection, and if recognised early is a disease

which is particularly suitable for surgical treatment. In my series of cases of spinal tumour five were due to the presence of hydatid cysts within the spinal canal. The pathological anatomy of spinal hydatid cysts has revealed two points of great importance with regard to their situation: (1) that the cysts causing compression myelitis are usually external to the spinal dura mater, according to Colman in 20 out of 24 cases; and (2) that in the majority of cases the cysts are on the posterior surface of the spinal dura mater. In the majority of cases, therefore, the cysts are situated on the surface of the dura mater which is most easily exposed surgically. In addition, the cysts, being extradural, can be removed without opening the dura mater. In the five cases shown in my collection the cysts were situated extradurally in every one. In 10 out of 25 cases analysed by Colman the dorsal region of the cord was the seat of the compression myelitis caused by the cyst. In the five additional cases which I have collected in the records of the National Hospital for the Paralysed and Epileptic, Queen-square, the disease was situated in the dorsal region in three cases and in the dorso-lumbar in two cases. In many of the cases recorded the cysts have first developed in the subpleural connective tissue and in the muscles of the back and afterwards have extended through the intervertebral foramina into the vertebral canal and then spread in a longitudinal direction in the adipose tissue external to the spinal dura mater. Colman found that in 21 cases in which the information was sufficiently explicit the following were the sites of origin of the cysts: cancellous tissue of the vertebræ, 7 cases; extradural areolar tissue, 4 cases; lung or pleural cavity, 2 cases; muscles of the back, 4 cases; arachnoid tissue, 2 cases; and retroperitoneal tissue, two cases. The level of the cord compressed was as follows: cervical region, 2 cases; dorsal region, 10 cases; lumbar region, 6 cases; cauda equina, 5 cases; and dorso-lumbar and cauda equina, 2 cases. In most of the cases recorded symptoms of compression of spinal nerve roots, radiating pains, have occurred first, and subsequently paraplegia with bladder and rectal symptoms has developed. The onset of the paraplegia has usually been gradual. In four out of my five cases pain was the first symptom complained of and in reviewing 38 recorded cases of hydatid disease occurring in the spinal column or spinal cord I find that pain was the first symptom complained of in 28. This was in nearly all cases followed by gradually increasing weakness of the limbs, passing on to complete paralysis, and the paraplegia in all of them was gradual in onset.

As regards the diagnosis, the symptoms just mentioned may be attributed to spinal hydatid cysts when examination reveals the presence of hydatid cysts in some other part of the body and no other cause of compression myelitis can be detected. Otherwise, in the absence of some external signs of hydatid tumour there would appear to be no means of diagnosis in a case of paraplegia due to this cause. In none of the Queen-square cases was the cause diagnosed before operation.

In reviewing the cases heretofore published, in those in which a necropsy was made, in three there is no mention of the existence of cysts in other organs. In eight it is distinctly stated that there were no other cysts, two were found on the dorsal muscles, one on the areolar tissue of the pelvis, and one in the back muscles, iliac fossa, and prevesical areolar tissue.

*Treatment.*—This consists in the majority of cases of the operation of laminectomy for the relief of the compression paraplegia, the cause of which is not usually recognised until operation. In the five cases of my series the time elapsing between the onset of the symptoms and the arrival of the patients at the National Hospital was six weeks, one year, ten years, one year, and ten months. They were all submitted to laminectomy with recovery and decided improvement as far as they were able to be traced.

In operating it may happen that some cysts will be opened in cutting through the muscles of the back and the disease recognised before the spinal canal is opened, or it may be only on opening the canal that the cysts are met with. In either case the complete operation will be necessary to insure the relief of the cord pressure. It is extremely rare to have to open the dura mater, the cysts in the vast majority of cases lying extradurally. On exposure the cysts should be scraped out and the wound irrigated with a strong solution of perchloride of mercury, 1 in 500 to 1000. Great care should be taken to see that the compression is entirely removed. A drain is left in and the wound closed in the usual way. Should the disease be confined to the vertebræ and not causing symptoms of paraplegia it is doubtful if it will be recognised before operation unless there be visceral hydatid disease also, or unless a swelling has been opened in the muscles of the back which reveals the true nature of the affection. When situated in the vertebræ the disease should be attacked and an effort made to get rid of it by scraping out the focus. The details of the operation must be modified in each particular case, depending upon the situation of the disease. Every care must be taken to avoid septic infection. If bony destruction has taken place care must be taken to prevent deformity occurring, or prevent its increasing if already present. This may be done by recumbency, with extension, as in tuberculous disease of the vertebræ. The possibility of spontaneous fracture occurring should always be borne in mind.

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# ACQUIRED DIVERTICULA OF THE SIGMOID FLEXURE,

## CONSIDERED ESPECIALLY IN RELATION TO SECONDARY PATHOLOGICAL PROCESSES AND THEIR CLINICAL SYMPTOMS.

BY W. H. MAXWELL TELLING, M.D., B.S. LOND., M.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO THE GENERAL INFIRMARY AND TO THE HOSPITAL FOR WOMEN AND CHILDREN AT LEEDS; CLINICAL LECTURER ON MEDICINE AND DEMONSTRATOR IN MEDICAL PATHOLOGY IN THE UNIVERSITY OF LEEDS.

THE pathological condition with which this communication deals is one which, on the whole, has received but scant attention in the literature, especially in England. As Brewer (6)* has recently said: "From time to time during the last half century pathologists have observed and reported specimens of these false diverticula of the left colon (with or without fæcal concretions) and have clearly demonstrated the relationship between these lesions and a general or localised peritonitis. For the most part, however, these communications have been buried in the transactions of pathological societies or have appeared in periodicals not largely read by clinicians. This circumstance, and the rarity of the condition, will account for the fact that the disease is not described in our clinical textbooks nor generally recognised by the profession." On the other hand, during the last few years attention has been much focussed on the left iliac fossa in the study of certain pathological conditions arising from or involving the sigmoid flexure. The terms "sigmoiditis" and "perisigmoiditis" are now commonly employed to designate this type of case—that is, with inflammatory lesions in this region of the abdomen. A study of these cases of sigmoid inflammation (Patel (56), Léjars (45), Bittorf (3), Rosenheim (63)) shows that they have many signs and symptoms in common and that they can be divided up into several fairly well-defined clinical groups. But in cases verified at operation or necropsy the pathological processes underlying and causing these symptoms and physical signs are found to be very various, the conditions are clinical rather than pathological entities. This study has been undertaken with a view to giving prominence to one of such pathological causes—the presence of acquired diverticula in or near the sigmoid loop.

Recent writers—and the whole subject is only a few years old—in France, Germany, and America are inclined to ascribe increasing importance to the rôle of the diverticulum in the etiology of sigmoiditis and perisigmoiditis, both acute and chronic. Since attention has been directed

* The parenthetical figures throughout the article relate to the bibliography at the end.

treatment by full doses of iodide, although earlier symptoms may have been removed by it. According to Bruns, lymphangioma, angioma, and cylindroma are common in the cauda equina, but rare elsewhere. They are often, however, associated with other varieties of tumour in other parts of the cord.

The occurrence of hydatid disease most frequently in the dorsal and lumbar regions may be due to the fact that this part of the vertebral column is most often the seat of injury. True metastases from spinal cord tumours scarcely ever occur in other parts of the central nervous system or other organs. The simultaneous occurrence of tumours in the brain and spinal cord is, however, not rare. A specimen illustrating this is here shown from the museum of the National Hospital. The patient was under the care of my colleague Dr. Beevor. The primary tumour, a fibro-sarcoma, is situated in the left lobe of the cerebellum, the secondary growths being in the filum terminale, the anterior and posterior nerve roots, and in the posterior root ganglia. Stanley Barnes describes in detail two such cases and gives an account of nine others reported by different observers. He holds that "in general it remains impossible to give any accurate diagnostic signs of the condition; but it seems clear that if a patient who is known to present the signs of unlocalisable cerebral tumour develops well-marked pains in the limbs and trunk, with early loss of deep reflexes and rapid wasting, the presence of disseminated growth in the spinal pia and posterior root ganglia should be suspected. In such cases it would be well to examine also the ventricular lining, in case the less obvious gelatinous growths which occur in this situation may be overlooked." Barnes comes to the following conclusions:—

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2. In all probability diffuse sarcomatous infiltration of the spinal pia-arachnoid, which is occasionally found post mortem, is in all cases the expression of a sarcomatous infection of the cerebro-spinal fluid, as a result of some primary growth, which lies exposed to the stream of the cerebro-spinal fluid high up in the nervous system.

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Both extradural and intradural metastatic carcinoma are rare and when present are always multiple. Retinal glioma may give rise to multiple metastases in the membranes and cord. These metastatic tumours tend to extend in a flat form, large patches of the cord being covered with a cylindrical mantle, though the cord does not seem to be severely compressed nor the roots materially injured thereby. Even in these circumstances direct entrance of the tumour into the cord is rare. This is especially true of sarcoma, whether primary or metastatic. However, tumours of the membranes may reach the cord by means of the pia mater. While rare in carcinoma and sarcoma, it is more common in syphilis and in tubercle.

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### HYDATID DISEASE CAUSING PARAPLEGIA.

Compression paraplegia due to spinal hydatid cysts is not a rare affection, and if recognised early is a disease

which is particularly suitable for surgical treatment. In my series of cases of spinal tumour five were due to the presence of hydatid cysts within the spinal canal. The pathological anatomy of spinal hydatid cysts has revealed two points of great importance with regard to their situation: (1) that the cysts causing compression myelitis are usually external to the spinal dura mater, according to Colman in 20 out of 24 cases; and (2) that in the majority of cases the cysts are on the posterior surface of the spinal dura mater. In the majority of cases, therefore, the cysts are situated on the surface of the dura mater which is most easily exposed surgically. In addition, the cysts, being extradural, can be removed without opening the dura mater. In the five cases shown in my collection the cysts were situated extradurally in every one. In 10 out of 25 cases analysed by Colman the dorsal region of the cord was the seat of the compression myelitis caused by the cyst. In the five additional cases which I have collected in the records of the National Hospital for the Paralysed and Epileptic, Queen-square, the disease was situated in the dorsal region in three cases and in the dorso-lumbar in two cases. In many of the cases recorded the cysts have first developed in the subpleural connective tissue and in the muscles of the back and afterwards have extended through the intervertebral foramina into the vertebral canal and then spread in a longitudinal direction in the adipose tissue external to the spinal dura mater. Colman found that in 21 cases in which the information was sufficiently explicit the following were the sites of origin of the cysts: cancellous tissue of the vertebræ, 7 cases; extradural areolar tissue, 4 cases; lung or pleural cavity, 2 cases; muscles of the back, 4 cases; arachnoid tissue, 2 cases; and retro-peritoneal tissue, two cases. The level of the cord compressed was as follows: cervical region, 2 cases; dorsal region, 10 cases; lumbar region, 6 cases; cauda equina, 5 cases; and dorso-lumbar and cauda equina, 2 cases. In most of the cases recorded symptoms of compression of spinal nerve roots, radiating pains, have occurred first, and subsequently paraplegia with bladder and rectal symptoms has developed. The onset of the paraplegia has usually been gradual. In four out of my five cases pain was the first symptom complained of and in reviewing 38 recorded cases of hydatid disease occurring in the spinal column or spinal cord I find that pain was the first symptom complained of in 28. This was in nearly all cases followed by gradually increasing weakness of the limbs, passing on to complete paralysis, and the paraplegia in all of them was gradual in onset.

As regards the diagnosis, the symptoms just mentioned may be attributed to spinal hydatid cysts when examination reveals the presence of hydatid cysts in some other part of the body and no other cause of compression myelitis can be detected. Otherwise, in the absence of some external signs of hydatid tumour there would appear to be no means of diagnosis in a case of paraplegia due to this cause. In none of the Queen-square cases was the cause diagnosed before operation.

In reviewing the cases heretofore published, in those in which a necropsy was made, in three there is no mention of the existence of cysts in other organs. In eight it is distinctly stated that there were no other cysts, two were found on the dorsal muscles, one on the areolar tissue of the pelvis, and one in the back muscles, iliac fossa, and prevesical areolar tissue.

*Treatment.*—This consists in the majority of cases of the operation of laminectomy for the relief of the compression paraplegia, the cause of which is not usually recognised until operation. In the five cases of my series the time elapsing between the onset of the symptoms and the arrival of the patients at the National Hospital was six weeks, one year, ten years, one year, and ten months. They were all submitted to laminectomy with recovery and decided improvement as far as they were able to be traced.

In operating it may happen that some cysts will be opened in cutting through the muscles of the back and the disease recognised before the spinal canal is opened, or it may be only on opening the canal that the cysts are met with. In either case the complete operation will be necessary to insure the relief of the cord pressure. It is extremely rare to have to open the dura mater, the cysts in the vast majority of cases lying extradurally. On exposure the cysts should be scraped out and the wound irrigated with a strong solution of perchloride of mercury, 1 in 500 to 1000. Great care should be taken to see that the compression is entirely removed. A drain is left in and the wound closed in the usual way. Should the disease be confined to the vertebræ and not causing symptoms of paraplegia it is doubtful if it will be recognised before operation unless there be visceral hydatid disease also, or unless a swelling has been opened in the muscles of the back which reveals the true nature of the affection. When situated in the vertebræ the disease should be attacked and an effort made to get rid of it by scraping out the focus. The details of the operation must be modified in each particular case, depending upon the situation of the disease. Every care must be taken to avoid septic infection. If bony destruction has taken place care must be taken to prevent deformity occurring, or prevent its increasing if already present. This may be done by recumbency, with extension, as in tuberculous disease of the vertebræ. The possibility of spontaneous fracture occurring should always be borne in mind.

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# ACQUIRED DIVERTICULA OF THE SIGMOID FLEXURE,

## CONSIDERED ESPECIALLY IN RELATION TO SECONDARY PATHOLOGICAL PROCESSES AND THEIR CLINICAL SYMPTOMS.

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THE pathological condition with which this communication deals is one which, on the whole, has received but scant attention in the literature, especially in England. As Brewer (6)* has recently said: "From time to time during the last half century pathologists have observed and reported specimens of these false diverticula of the left colon (with or without fæcal concretions) and have clearly demonstrated the relationship between these lesions and a general or localised peritonitis. For the most part, however, these communications have been buried in the transactions of pathological societies or have appeared in periodicals not largely read by clinicians. This circumstance, and the rarity of the condition, will account for the fact that the disease is not described in our clinical textbooks nor generally recognised by the profession." On the other hand, during the last few years attention has been much focussed on the left iliac fossa in the study of certain pathological conditions arising from or involving the sigmoid flexure. The terms "sigmoiditis" and "perisigmoiditis" are now commonly employed to designate this type of case—that is, with inflammatory lesions in this region of the abdomen. A study of these cases of sigmoid inflammation (Patel (56), Léjars (45), Bittorf (3), Rosenheim (63)) shows that they have many signs and symptoms in common and that they can be divided up into several fairly well-defined clinical groups. But in cases verified at operation or necropsy the pathological processes underlying and causing these symptoms and physical signs are found to be very various, the conditions are clinical rather than pathological entities. This study has been undertaken with a view to giving prominence to one of such pathological causes—the presence of acquired diverticula in or near the sigmoid loop.

Recent writers—and the whole subject is only a few years old—in France, Germany, and America are inclined to ascribe increasing importance to the rôle of the diverticulum in the etiology of sigmoiditis and perisigmoiditis, both acute and chronic. Since attention has been directed

* The parenthetical figures throughout the article relate to the bibliography at the end.

to the subject many more cases have been recorded, including especially the kind of case that previously has almost certainly been regarded as carcinoma or "simple inflammation" of the sigmoid flexure—the origin of the thickening of the gut-wall not having been recognised. I may here well quote the concluding words of a recent article (Gordinier and Sampson (22)): "We again emphasise the fact that acquired diverticula of both small and large intestine undoubtedly occur more frequently, and also more frequently give rise to clinical symptoms, than the reported cases and autopsy records indicate, and for this reason we would especially urge that this condition be borne in mind, both by pathologists and clinicians, in order that the medical profession may learn the frequency of their occurrence, and also the part played by them as a cause of both tumour and more serious abdominal disturbances." In view, therefore, of their increasing importance in both medicine and surgery it has seemed useful to attempt a summary of the facts at present known as well as of the recorded cases up to date.

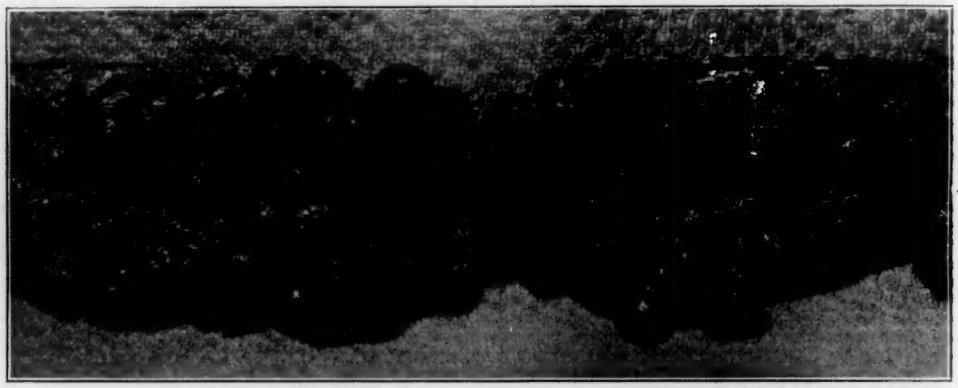
As is well known, diverticula may occur in any part of the intestine and are divided into two kinds—usually easily to be differentiated—congenital and acquired. Meckel's diverticulum is the most familiar example of the first kind; but congenital diverticula may occur anywhere in both small and large bowel. Acquired diverticula are also found in almost any situation in the gut, several well-marked instances being recorded in the vermiform appendix. (Edel (16), Fisher (20), Mertens (79)). They are generally acknowledged to be most frequent in the large intestine, and especially in the lower part of the descending colon and the sigmoid flexure, the latter situation providing the most examples. Here they are usually multiple, have fairly constant anatomical features, and are particularly liable to undergo secondary pathological processes with, in many cases, a symptomatology peculiarly their own. The following summaries of cases provide good examples of the condition:—

*CASE 1 (1906).—Female, 73 years of age. Death from strangulated femoral hernia. Obese. Much fat on the large gut; the last three feet of the descending colon and sigmoid flexure present numerous diverticula, arranged for the most part in two rows, entering the fatty appendices epiploicæ. But some are at the sides of the appendages or into the meso-sigmoid; thus there may be several diverticula at the same level. They cease abruptly at the commencement of the rectum. The orifices are much smaller than the pouches and are somewhat "lipped" by mucous membrane; this latter is unduly rugose but otherwise normal. The diverticula are most numerous and largest in the lower 12 inches of the sigmoid flexure; in places they appear "bunched" together (when the appendical fat is removed) like clusters of currants, which is the prevailing size, though both smaller and larger are found. They contain fæces. Where most thickly placed the gut-wall is thickened and there is some narrowing of its lumen.

*CASE 2 (J. K. Jamieson, 1898).—Male, 69 years of age. Emaciated. Dissecting-room subject. Death from cerebral hæmorrhage. The outer surface of the splenic flexure, descending colon and sigmoid flexure, is studded with nodules, which prove to be pouches of the gut wall filled with fæcal matter and projecting into the appendices epiploicæ. The pouches are few and small in the lower part of the descending colon, but numerous and large in the splenic and sigmoid flexures. There are none on the posterior surface of the fixed colon nor any projecting between the layers of the meso-sigmoid. In shape the majority are sessile rounded elevations of the size of a pea, others are slightly flattened with the longer axis tranverse. Some are globular and might almost be described as pedunculated. By far the greater number project into the appendices epiploicæ, and though there are some which do not seem to be connected with appendices it must be noted that in each of these there is a speck of fat on the summit, and that the pouch is large and contains a hard concretion, so that one may suppose that it has entirely filled an appendix. The fæcal matter in some of the pouches is of soft consistence like that which fills the cavity of the gut, in others it is in the form of hard concretions of the size of a pea. There are very few adhesions, but the sigmoid flexure is fixed to the rectum and bladder. The intestinal mucous membrane is normal.

*CASE 3 (G. W. Watson, 1907).—Male, 54 years of age. Arterio-sclerosis and hypertrophied heart; granular kidney; death from cerebral hæmorrhage. Numerous diverticula of descending colon and sigmoid flexure (involving about two feet of the bowel), ceasing at commencement of rectum. There is much fat in appendices epiploicæ and in the meso-sigmoid. The diverticula are of all sizes up to a large pea and are arranged in two parallel rows and enter the appendices epiploicæ for the most part. The orifices are smooth-edged and somewhat "lipped" by a fold of mucous membrane; this is unduly rugose. The diverticula mostly contain fæces. There is no thickening of the gut wall or stenosis of the bowel. Microscopic examination (Dr. S. G. Scott).—The diverticula show a well-marked muscular coat at the neck of the sac; this thins off rapidly and disappears opposite about its middle. It is replaced by a certain amount of fibrous tissue.

FIG. 1.



Specimen from Case 1, natural size. All the fatty tissue, which was abundant, has been dissected from off the diverticula.

In their anatomical features these specimens may be regarded as typical of acquired diverticula of the sigmoid flexure; no secondary inflammatory processes have supervened and consequently there were no clinical symptoms. For there is unanimity of opinion that the diverticula, apart from such secondary processes, do not cause symptoms or give rise to trouble. (Loomis records an interesting exception to this (Case 43).) The acquired diverticula which occur in other situations in the large intestine, or even in the small intestine (Leube (46)), may possibly be of the same nature—that is, due to similar causes. But so far there is only a single recorded case of such a diverticulum in the small intestine giving rise to symptoms (Gordinier and Sampson (22)).

In the small group of cases of diverticula of the vermiform appendix, when symptoms have arisen, appendicitis has been simulated; the diagnosis and treatment are on similar lines. Consequently, it is clinically unimportant to separate these cases from ordinary cases of appendicitis. But the great comparative frequency of the condition in the sigmoid flexure and the large proportion of these recorded cases in which symptoms have followed justify our giving it separate and special consideration. In view of this, therefore, it is useful to gain some idea of the absolute frequency of its occurrence. The earlier writers evidently regarded it as extremely rare; most later observers doubt this. I have been able to collect 105 cases, 22 of which are new to the literature. Most of those to whom I have shown my specimens have been unfamiliar with the condition; on the other hand, Sir Cooper Perry tells me that in his experience such diverticula are not uncommon in old and constipated subjects. In many necropsies the lower portion of the large gut is a somewhat neglected structure: unless the diverticula were of some size or had given rise to secondary pathological processes they would be likely to escape any but a close examination. When marked secondary processes have occurred the diverticular origin has been sometimes

overlooked, and that even after removal at necropsy. In this connexion I have been impressed with the frequency with which authors have recalled from their past experience cases which, in the light of a full knowledge of the condition, they could but regard as of similar nature. The following post-mortem statistics are interesting:—

| Institution. | Necropsies. | Meckel's diverticulum. | Diverticulum in small intestine. | Diverticulum in large intestine. |
|---|---|---|---|---|
| Dresden City Hospital ... ... ... | 8133 | 8 | 1 | 6 |
| Johns Hopkins Hospital ... ... ... | 2800 | 15 | 14 | 19 |
| Boston City Hospital ... ... ... ... | 1382 | 11 | 1 | 1 |
| Bender Hygienic Laboratory (22) ... | 953 | 5 | 0 | 2 |
| | 13,068 | 39 | 16 | 28 |

The variability of these figures seems to prove that the care and regularity with which intestinal diverticula are sought differ greatly in individual practice and that this difference prevents any positive conclusions as to frequency being drawn from them.

The researches of Graser (23) and Sudsuki (70) by microscopic examination of a considerable number of specimens prove that in older subjects the earliest stages of the condition are by no means infrequent. In the sigmoid flexures from 28 bodies Graser found such small diverticula in 10 cases and Sudsuki found them present 15 times in 40 cases. These figures go far to help one to the conclusion that the condition is commoner than the total of recorded cases would indicate.

While the specimens described above are typical in that there are a large number of diverticula, in some there is present apparently only a single diverticulum, or perhaps two or three. Edel (16), however, says that where there is one others will be found on close examination, and it must be admitted that in most of the recorded cases of a single diverticulum there has not been a sufficiently close examination to enable us to disprove the assertion. The researches of Graser and Sudsuki fully confirm this probability; it is illustrated by the next two cases.

*CASE 4 (Guy's Hospital Museum, Specimen No. 767, Insp. Vol. xv., p. 51. 1831).—Male, 73 years of age. Alcoholic. Emphysematous. Near the termination of the colon (probably in the sigmoid flexure) is an aperture (one-eighth of an inch in diameter) in the mucosa which communicates with a smooth-walled sacculus lined with healthy mucous membrane. It contains fæcal matter. This is apparently a single diverticulum, but above and below this opening are to be noted depressions in the mucous membrane which are the orifices of smaller diverticula.

*CASE 5 (G. W. Watson, 1907).—Female, 69 years of age. Obese. Death from general peritonitis following strangulated femoral hernia. The sigmoid flexure is very fatty and the appendices epiploicæ are very prominent in consequence. In the lower third of the sigmoid flexure is a diverticulum of about the size of a cherry. This enters an appendix and has on the mucous membrane of the gut a small round opening a quarter of an inch in diameter. No other diverticulum can be discovered. But on dissecting the epiploic fat from off the sac it is found to be lobulated; on invagination into the bowel its wall is seen to present four small orifices, *each* leading into separate diverticula.

These diverticula occur mainly in two rows, either at the sides of the gut or close to the mesenteric attachment, more rarely on the convexity. Perhaps the commonest situation is into the appendices epiploicæ. In many cases they are confined to them and then generally present a double row of symmetrically placed, hollowed-out "pockets." In other cases none are so situated. Frequently some of the diverticula enter the appendices and some lie outside them. This special favouring of the appendices epiploicæ is accounted for by the fact that the point of their attachment to the gut is a *locus minoris resistentiæ*. In a majority of cases the affected appendages are, or have been, filled with a large amount of fat. Bland Sutton (4) has stated, and illustrated by diagrams, that this fat is directly continuous with the subserous fat. If there is the slightest tendency to the formation of diverticula it will readily be seen that the soft fatty tissue of the appendix forms a point of lowered resistance.

The diverticula vary in size, usually from mere macroscopic visibility to that of a hazel-nut. A larger size than this is seldom attained, as secondary changes generally occur, leading either to detachment (Cases 58, 8) or ulceration, abscess or peritonitis. When small they are semi globular; as they increase they become more oval or flask-shaped, the aperture in the gut-wall usually being smaller than the maximum diameter of the diverticulum (almost constantly so when they enter the appendices epiploicæ). This is an anatomical point of great importance in regard to the causation of inflammation in them. In those diverticula which do not enter the appendices epiploicæ the aperture may be relatively large; they are then generally "true" and are formed from the normal haustra (Sudsuki (70)). Usually not extending much above the middle of the descending colon, they increase in number and size from above downwards, and may be quite crowded together in the sigmoid flexure. At the commencement of the rectum they usually stop abruptly. This is possibly mainly due to the absence of appendices epiploicæ in this situation; but the fact that fæces are not retained so long in this part of the bowel as in the sigmoid flexure is also partly responsible. Schreiber (69) thinks that the stronger musculature of the rectum also plays some part in preventing their formation. They are almost invariably filled with fæcal material, generally concretions of some degree of firmness; this fact probably determines their subsequent clinical importance and sharply distinguishes them from acquired diverticula in the small intestine which rarely contain fæcal material. To this fact therefore we can ascribe the almost total immunity of the latter from secondary pathological processes and symptoms.

Usually, in the early stages, all the coats of the bowel are represented, but in some the muscularis is absent; this latter condition is the rule in most of the diverticula of any size. There has been much controversy as to the significance of the presence of muscular fibres in the diverticulum wall. Cruveilhier (13), Rokitansky (61), and others originally regarded the diverticula as hernial protrusions of the mucous and serous coats, with absence of muscular tissue. This absence or presence of muscle was for many years the criterion for distinction between congenital and acquired diverticula. The microscopic findings in numerous cases show that acquired diverticula often have all the coats of the bowel represented (in the early stages of their formation it is almost the rule [Edel (16)]), although the muscular tissue generally undergoes atrophy as the sac enlarges (Seippel (67)). This point is clearly demonstrated by Upcott (52) in Moynihan's recent case (No. 48) and by Scott (Case 3).

## ETIOLOGY.

What, then, is the cause of these diverticula? Are they always acquired? In answer to the latter question it is significant that no case has so far been recorded in a child (Hale White (27), Schreiber (69)), while the great majority are in old, even aged subjects. Moreover, the various points which have been successively established with regard to their etiology would seem to put the answer to this question beyond doubt, even though we admit that a congenital anatomical arrangement of the muscle fibres or of the connective tissue of the vessel-spaces of the gut wall furnishes a special predisposition. The etiology has been discussed often and at length and I do not propose to enter largely into controversial questions, but merely to summarise the views which are held by recent investigators.

1. *The generally advanced age.*—In 80 cases the average age was 60 years. But of these 80 cases the average age of those in which the diverticula caused clinical symptoms was 55 years (47 cases); in 33 cases in which the condition had given rise to no symptoms referable to their presence, and was only discovered "accidentally," the average age was 67 years. Fiedler (19) records the youngest case, at 22 years (No. 68).

2. *Sex.*—In 81 cases 53 were males and 28 were females.

3. *Obesity.*—Klebs, and more recently Mayo and others, have laid stress on this point. Certainly many of the patients have been fat; the presence of much fatty tissue in the gut walls and the appendices epiploicæ has been shown by Bland-Sutton to predispose to the formation of mucosal outpushings. Sudsuki (70) emphasises their presence on fatty gut. In 22 cases in which the point is definitely referred to 17 of the patients are stated to be more or less obese or to have much fatty tissue on the gut wall.

4. *Cachexia and absence of fat.*—On the other hand, many subjects are noted as having been thin (Hansemann (30)). Five of the above 22 cases were stated to be of this type. Undoubtedly some of them had previously been obese, and from age or illness had lost much of their fatty tissue. This point is not definitely referred to in most of the case-histories (so many of them have been post-mortem "finds"),

but it will easily be understood that the fatty deposit in the first place would weaken the gut wall; the subsequent loss of the fat, with possibly concomitant weakening and wasting of the muscle fibres themselves, would probably increase this tendency.

5. *The normal structure of the large intestine.*—This readily lends itself to local yieldings of its walls, as is suggested by the normal sacculi, which are often exaggerated in cases of constipation; sometimes in association with diverticula (Cases 8 and 34).

6. *The physiological rôle of the sigmoid flexure.*—In this portion of the bowel is the longest retention of fæcal material, and here, consequently, the pressure from within will be liable to be greatest.

7. *Pressure from within the bowel.*—This may be due to the accumulation of fæces or gas, or of both. (*a*) *The presence of constipation.*—There is no doubt that this stands in a most frequent and important causal relationship to the condition. In 22 cases in which the point is definitely mentioned constipation (often severe and generally for a considerable period) was present in 17. In the remaining five cases its absence is particularly noted. Further case-histories will enable us to estimate more surely the relative frequency of constipation. But constipation in old people, whether obese or emaciated, is very common, while diverticula are rare; therefore some other factor must determine their occurrence. (*b*) *Flatulence.*—This, usually associated with constipation, acts in the same way by increasing internal pressure; so much stress has been laid upon the factor of internal pressure that the term "pulsion-diverticula" has been applied to them.

8. *The relation of the diverticula to the points of entry of the vessels through the gut walls.*—This fact was first pointed out by Klebs (43) in the case of acquired diverticula in the small intestine and has been confirmed by Hansemann (30), Fischer (20), and others with regard to the large intestine; the point is now beyond doubt. Microscopically it is evident that the spots in the gut wall where it is pierced by the vessels are areas of weakened resistance to internal pressure because the vessels are accompanied by a certain amount of lax connective tissue through which an out-pushing of the mucous membrane can more easily take place.

9. *The variations in the size of the vessels.*—Graser (23) was the first to investigate this point; in his case the patient suffered from chronic heart disease with venous back pressure leading to distension of the venules in the gut wall. This vascular dilatation he regarded as still further weakening these vessel spaces by pushing aside the muscular fibres. He undertook an interesting research with a view to confirming this. He examined microscopically the sigmoid flexures of 28 patients who had suffered, prior to death, from mesenteric venous stagnation. In 10 of them he found definite evidence (mostly microscopic) of commencing out-pushings of the gut wall; in *every* case they occurred through these "vessel-holes." Moreover, the diverticula were most numerous in the sigmoid flexure and practically ceased at the middle of the ascending colon. The mesenteric venous congestion, he pointed out, may be due to various causes—chronic heart or lung disease; portal back-pressure or intra-abdominal tumour; growth, &c. He is inclined to ascribe a special importance to a distension which is not constant but of frequent repetition (as occurs in the repeated failures of compensation and as frequent recoveries therefrom in patients with chronic heart disease). When the vessels are engorged the "vessel-holes" are enlarged; when they are smaller these areas are thereby weakened and there is a greater liability to hernial protrusion of the mucosa. But while in the small intestine the diverticula are practically always on the mesenteric side of the bowel, where the vessels pierce the walls, in the large bowel many of the diverticula occur on the side *remote* from the mesentery. For these some other explanation must be sought. Schreiber (69) is unable to confirm Graser's conclusions. He thinks that where congestion of the venules exists it is in most cases *secondary* to the presence of fæces in the diverticulum rather than the original cause of the formation of the latter.

10. *The connective tissue round the vessels.*—Sudsuki (70) also undertook a research with a view to confirming or disproving Graser's work. In 40 cases of *various* kinds—that is, not all suffering from mesenteric venous stagnation as were Graser's—which he examined he found microscopically diverticula present in the sigmoid flexure in 15 bodies; in six cases the diverticula were "true"—that is, all the coats of the bowel were represented therein. But so far from confirming Graser's conclusions his research may be considered effectually to disprove it. For whereas in 28 cases in which mesenteric congestion was present he found diverticula in only six, in 12 cases free from such congestion diverticula were found in nine cases. The subjects were all adults and nearly all were middle-aged or old. He suggests that there is a congenital predisposition with regard to the amount and laxity of connective tissue surrounding the vessels at these spots; if there is much fatty deposit this will act in the same way, and if there be subsequent wasting of such fatty tissues further weakening will take place. But as Beer (1) says, this theory fails to explain the non-mesenteric diverticula (that is, those on the convexity of the gut) and those which have muscular layers in their walls. Certainly the vessel spaces have some influence and doubtless "direct the path" for those diverticula formed on the mesenteric aspect. Increase of pressure due simply to accumulation of gas and fæces cannot alone be sufficient, for the condition would then be much commoner than it is. There must be some underlying cause. This Beer finds in

11. *Muscular deficiency of the gut wall.*—The facts that diverticula occur in old people, in people the muscular power of whose intestines has been more or less exhausted (as evidenced by constipation), and in association with obesity (or obesity followed by cachexia), all point to a muscular deficiency; in this muscular weakness he thinks the cause of the formation of the false diverticula must be sought. Schreiber (69) strongly supports this view; indeed, first stated it. It certainly fits many of the facts already established. Wilson (48) has noted in Mayo's cases areas of muscular deficiency opposite early diverticula or even in areas as yet free from out-pushing. Whether this muscular weakness and thinning is a constant or frequent accompaniment, or whether it is a congenital or acquired condition, are points on which further research is needed.

It will thus be seen that probably no one factor is sufficient by itself to bring about the condition. Constipation is extremely common; these out-pushings are comparatively rare. Venous congestion is also common, and the combination of this with constipation is by no means infrequent; possibly there needs to be in addition a muscular weakness which may be acquired or is due in some cases, if not in all, to an abnormal arrangement, of congenital origin, of the connective tissue of the vessel-spaces or of the muscle fibres of the gut wall. The suggestion has been made (Hale White (28), Lafite-Dupont (15)) that the condition is a representation in the human subject of that found in some of the lower animals, but I have not been able to find any researches in support of this.

Below are summarised the remaining cases (some of them new to the literature) in which diverticula were present but unassociated with clinical symptoms. I feel sure that a greater number than I have been able to collect are recorded, probably in the proceedings of various societies and in other ways to which reference is difficult or impossible. Nor do I think too much stress must be laid on the fact that out of 105 cases cited in this paper 60 per cent. have been attended with clinical symptoms. Further, case records may lead us to a different conclusion because it is much more probable that a greater proportion of "clinical" cases would be put on record. Yet there is no doubt that the true nature of many of these "clinical" cases has been overlooked in the past; a much greater series of observations is therefore required.

*CASE 6 (1907).—Female, 79 years of age, poorly nourished. Death from general feebleness and senility after operation for cataract. The sigmoid flexure for nine inches shows two rows of diverticula increasing in closeness and size from above downwards; they cease abruptly two inches above rectum. They all enter the appendices epiploicæ and contain fæces, soft or hard; the largest attain the size of a Barcelona nut. The gut has a good deal of fatty covering, the mucous membrane is unduly rugose but otherwise normal, and the orifices of the diverticula are small and mostly circular.

*CASE 7 (J. K. Jamieson, 1908).—Male, 76 years of age, well nourished. Death from chronic bronchitis. Adhesion of omentum to recto-vesical pouch. Lowest ten inches of the sigmoid flexure presents two rows of diverticula entering the appendices epiploicæ for the most part and containing a little fæcal material. Two inches from the lower end of the sigmoid flexure is a polypus of the size of a cherry and there is a marked hypertrophy of the longitudinal muscle bands increasing from above downwards to the point of attachment of the polypus where the hypertrophy abruptly ceases. There are a few diverticula below the polypus; they cease at the commencement of the rectum.

*CASE 8 (G. W. Watson, 1907).—Male, 65 years of age. Death from ruptured aortic valve. The whole sigmoid flexure is fatty and presents marked dilatation and sacculation of its normal haustra; in addition there are numerous diverticula which in most cases enter the appendices epiploicæ. The pouching stops abruptly at the commencement of the rectum. The sacculation and diverticula are filled with

hard fæcal masses; the mucosa is normal. Some of the diverticula present small orifices at the bottom of the dilated haustra; in some cases the haustra themselves diminish gradually and end as diverticula entering an appendix epiploica. There are certainly two distinct conditions: (1) sacculation of the haustra; and (2) diverticulum formation. Externally many of the appendages present inflammatory changes; some are adherent one to the other (in one case forming a "ring"); in one there is a hard, cherry-sized fæcal concretion, inflammation around which has led to obliteration of the orifice of the diverticulum and to the formation of a pedicle—that is, the first stage in the process of detachment and the formation of a free body in the peritoneum.

*CASE 9.—Female, 70 years of age. Chronic constipation. Thin subject. Numerous diverticula entering appendices epiploicæ from the lower part of the descending colon to the commencement of the rectum. They were nearly as large as the tip of the little finger; filled with hard fæcal material which had caused marked and chronic ulceration of the mucous lining of most of them.

*CASE 10 (Allan, 1881).—Female, 89 years of age. Chronic constipation. Numerous small diverticula in the sigmoid flexure.

*CASE 11 (Jamieson, 1899).—Female, 64 years of age. Fat. Multiple diverticula in the sigmoid flexure, mostly into the appendices epiploicæ, containing fæces and concretions.

CASE 12 (Bristowe (7)).—Female, 69 years of age. Cancer of stomach, liver, and peritoneum. Very many diverticula throughout the colon but chiefly in the sigmoid flexure. All entering the appendices epiploicæ and containing indurated lumps of fæces.

CASE 13 (Hansemann (30)).—Male, 85 years of age. Always thin, no constipation. Death from pneumonia. 400 diverticula; in the jejunum and upper ileum (where empty); in the transverse colon to the sigmoid flexure (most numerous in the latter), containing fæcal lumps. Situated chiefly on the mesenteric border, but some at the sides entering the appendices epiploicæ.

CASES 14 & 15 (Hansemann).—A female, 71 years of age, and a male, 69 years of age. Numerous diverticula in colon, with inflammatory changes in their mucosa and submucosa.

CASE 16 (Patel and Pellandra (57), 1906).—Female, 70 years of age. Died from pulmonary accidents. Multiple diverticula in the descending colon, the sigmoid flexure, and the upper rectum.

CASE 17 (Kivlin (42), 1906).—Female, 62 years of age. Double row of pouches (over 40) running down the sigmoid flexure on to the upper part of the rectum, containing fæces and concretions. All opposite the mesentery.

CASE 18 (Fischer (20), 1899).—Male, 64 years of age. Arterio-sclerosis with chronic passive congestion. 25 diverticula in the descending colon, the sigmoid flexure, and the rectum; mostly in the two latter places; they are situated near the mesenteric attachment. Adhesions around involved the bowel.

CASES 19 and 20 (Fischer, 1900).—Males, 40 and 60 years of age respectively. Both chronic passive congestion in cardio-vascular disease. 25 and 10 diverticula in the rectum and the sigmoid flexure respectively.

CASE 21 (Wallmann (75), 1858).—Male, 69 years of age. Two diverticula in the sigmoid flexure, three in the descending colon, three in the transverse colon, one in the ascending colon, and seven on the convex surface of the bowel.

CASE 22 (Grasberger (25), 1897).—Male, 73 years of age. Slender; no previous history. Multiple diverticula of the small gut and of the sigmoid flexure entering the appendices epiploicæ.

CASE 23 (Edel (16), 1894).—Female, 73 years of age. Chronic constipation; fair nutrition; arterio-sclerosis. Seven diverticula in the jejunum, containing fæces. Many in the whole extent of the large intestine; most numerous in the sigmoid flexure. Mostly at the mesenteric attachment, but some on the free surface. All enter the appendices epiploicæ and contain fæces.

CASE 24 (Condit (11), 1902).—Female, 70 years of age. Chronic nephritis, bronchitis, and emphysema and congestion. Numerous diverticula in the ascending colon (where there are few only) to the upper rectum. In two irregular rows on either side of mesenteric border. Contain small, hard, fæcal masses. Some inflammatory changes in the walls.

CASE 25 (Hale White (28), 1885).—Male, 50 years of age. Suppurative nephritis; no previous history. Numerous diverticula from the descending colon to the first part of the rectum; most contain fæces and enter the appendices epiploicæ.

CASE 26 (Hamilton (29), 1888).—Male, aged 45 years. Death from pulmonary tuberculosis. On the outer surface of the sigmoid flexure between the longitudinal bands about 12 small diverticula; thin walls; narrow neck; contain hard fæcal matter.

CASE 27 (Hodenpyl (36), 1900).—79 diverticula, mostly in the sigmoid flexure.

CASE 28 (Fiedler (19), 1868).—Male, 72 years of age. Chronic constipation. In the descending colon numerous and variously sized diverticula partly filled with fæces; in some places almost ulcerating through.

CASE 29 (Schreiber (69), 1902).—Male, 47 years of age. Fat. Sarcoma of thorax. Multiple diverticula of the sigmoid flexure; some thickening of the bowel.

CASE 30 (Schreiber, 1902).—Male, 70 years of age. Thin; no constipation. Carcinoma of the lung. A large number of small diverticula of the sigmoid flexure containing fæcal concretions. Some thickening of the bowel.

CASE 31 (Schreiber, 1902).—Male, 70 years of age. No previous illness. Cerebral hæmorrhage. Slightly dilated heart. Multiple diverticula; two in the ascending colon, 13 in the descending colon, and 53 in the sigmoid flexure, where they are close together. Some are of the size of a cherry, some only microscopic. Contain soft fæces.

CASE 32 (Schreiber, 1902).—Male, 67 years of age. Stout. Chronic bronchitis. Carcinoma of pylorus and liver. About 60 diverticula from the splenic flexure to the sigmoid flexure, where they are much more numerous and at the end of which they stop abruptly; reach the size of a cherry in places. Most are near the attachment of the meso-sigmoid; some into the appendices epiploicæ, some elsewhere.

CASE 33 (Schreiber, 1902).—Male, 67 years of age. Emaciated. Carcinoma of œsophagus. About 130 diverticula from the splenic flexure to the sigmoid flexure where they are more numerous and larger, and at the end of which they stop abruptly. Situated anywhere on the bowel wall; many enter the appendices epiploicæ; apertures valved.

CASE 34 (Sir Erasmus Wilson, 1884, No. 2455D, Royal College of Surgeons Museum).—Portion of the colon with dilated haustra; upon these are numerous diverticula varying in size from one-third to three-eighths of an inch in diameter. They contain fæcal concretions.

*CASE 35 (Guy's Museum Catalogue (26), 1855, No. 1854[82]).—Female, 62 years of age. Cancer of liver. Sigmoid flexure shows a double row of pouches composed only of mucous and serous coats and filled with fæces.

CASES 36 to 42.—These are referred to by various authors or are contained in records to which I have not be able to obtain access. Alibert (quoted by Treves (71)); 200 in one colon (Cruveilhier (13)); Wilks and Moxon (quoted by Hale White (27)); Zilgen (quoted by Catz (9)); Eichhorn (17); Gross (24); specimen in St. Thomas's Museum (quoted by Treves (71)), in which the whole sigmoid flexure was studded with pouches

## SECONDARY PATHOLOGICAL PROCESSES IN THE DIVERTICULA.

As has been stated, the diverticula of themselves occasion no trouble or symptoms; but the foregoing facts as to their anatomy and etiology will lead one to expect inflammatory changes in them. They tend in most cases to form fusiform pouches communicating with the lumen of the gut by a constricted neck; and these pouches are situated for the most part on just that portion of the large bowel—the sigmoid flexure—of which the normal anatomy and physiology favour most the retention of fæces and the accumulation of gas. If a condition of constipation exists the "force from within" is increased; and, whatever be the cause, or causes, of the formation of these diverticula, it is almost inevitable that they will from the first have fæcal contents. Owing to the narrow neck and deficiency of muscular fibres in the sac wall the contents will rarely be expelled, and so concretions will be formed. These are probably the direct cause of all the trouble, for there can be no doubt that the fæcal contents of the sac constitute a *point d'appui* for pressure from the bowel from within outwards. The first result will be, therefore, a *tendency to progressive enlargement* of the hernial "out-pushing."

The earliest pathological change, as the diverticulum enlarges, is an atrophy of the muscle layers (if it originally contained any) and of the glands of the mucosa; the muscle may be replaced by fibrous tissue. This increase in size of the diverticulum, with atrophic changes in its walls, leads necessarily to a dangerous thinning of the sac. In some cases there has been little more than a peritoneal covering, with the contained fæces clearly visible through it. The irritation of the retained and hardening fæces then leads to inflammatory changes. These may be slight and microscopic only in the mucosa and submucosa, or may produce more serious acute or chronic lesions. The fæcal matter is a nidus for a varied bacterial flora: their products undoubtedly determine the nature of the inflammatory reaction which occurs. Moreover, the concretion will tend to be forced through an inflamed or ulcerated area: this explains the occurrence of both local abscess or general peritonitis. It will explain the occurrence of the latter as the result of sudden traumatism or strain (Cases 54, 83, 84, 100), which probably cause an increased pressure within the bowel. The primary causes of the serious results that follow may therefore be thus summarised: (1) thinning of the diverticulum wall; (2) perforating action of the retained concretion; (3) the presence of micro-organisms and their toxins; and (4) inflammatory reaction of varying type and degree. With these data one could forecast almost with certainty the various kinds of case that might be expected to occur clinically, and the case-list provides examples of nearly all of them. The following is a summary of the secondary pathological processes to which sigmoid diverticula are liable. 1. Infection of the general peritoneal cavity, from thinning of the sac walls, without perforation. 2. Acute or gangrenous inflammation—"diverticulitis." 3. Chronic proliferative inflammation with thickening of the gut wall and stenosis of the bowel. 4. The formation of adhesions, especially adhesions to (*a*) the small intestine and (*b*) the bladder. 5. Perforation of the diverticula giving rise to (*a*) general peritonitis, (*b*) local abscess, (*c*) submucous fistulæ of the gut wall, and (*d*) fistulous communication with other viscera, especially the bladder. 6. The lodgement of foreign bodies. 7. Chronic mesenteritis of the sigmoid loop. 8. Local chronic peritonitis. 9. Metastatic suppuration. 10. The development of carcinoma. 11. Perforation into a hernial sac. These may now be considered in detail.

1. *Infection of the general peritoneal cavity as a result of thinning of the sac walls.*—The following is the only recorded case of this kind. Undoubtedly the organisms made their way through the greatly thinned sac walls.

CASE 43 (Loomis (47), 1870).—Male, 61 years of age. Well nourished, constipated. In the sigmoid flexure and the descending colon were

multiple diverticula filled with fæcal matter. They were much thinned out but had *not* perforated; nevertheless, there had resulted general peritonitis.

2. *Acute or gangrenous inflammation of the diverticulum.*—This may be associated with pain or tenderness and swelling in the left iliac region, in symptoms closely simulating ordinary appendicitis. This inflammation may give rise to general peritonitis or the formation of a localised abscess.

CASE 44 (Brewer (6), 1905).—Male, 54 years of age. Four days previously severe pain in the lower abdomen. Diagnosis: perforating appendicitis and peritonitis. Incision over the appendix, which was healthy; small oval fæcal concretion in the pelvis; gangrenous remains of a diverticulum of the sigmoid flexure; general peritonitis. (Also Cases 46, 57, 68, 75, 90, 92.)

3. *Chronic inflammation.*—One of the most important and characteristic results of multiple diverticulitis is a chronic proliferative inflammation of the submucous and serous coats resulting from the local absorption of bacterial products. Some degree of thickening is noted in 32 out of the 63 "clinical" cases; it may be very considerable (Cases 45, 48, 52, 80) and leads to very important results. These are: (*a*) tumour formation; (*b*) stenosis of the bowel with obstruction; and (*c*) mimicry of carcinoma. Of all the secondary results this proliferative inflammation is the most important, the most frequent, and probably the most overlooked. Graser (23) in 1898 was the first to describe a case (Case 47) of this kind. His communication attracted much attention in Germany and America (where the term "Graser's diverticula" has passed into current use), and since that date many cases of this type have been recorded, as a reference to the case-list will show. So far as I am aware the only case recorded in England is Moynihan's (Case 48). This mimicry of carcinoma may be so perfect that not only is that diagnosis made during life but at the operation; again confirmed at the necropsy and, according to Moynihan (51), specimens are to be found reposing on museum shelves labelled erroneously. This is not surprising when one has actually seen specimens presenting a great mass of inflammatory tissue. But carcinomatous stenosis presents some important differences; with it there are almost invariably an involvement and ulceration of the mucous membrane, with very frequently a fungation of growth into the lumen of the bowel. In the case of diverticulitis it is the rule for the mucous membrane to be free from ulceration (except as the result of the opening through it—from without inwards—of a fistulous tract or abscess cavity). But the folds of the mucosa are strongly marked and crowded together, giving it an unduly rugose appearance. The orifices of the pouches *may* be easily visible but are generally quite small and frequently concealed by these folds. My own observations have led me to the conclusion that the greater the inflammatory thickening the smaller are the orifices of the diverticula and the narrower are their channels; it is probable that the formation of fibrous tissue tends to elongate and narrow them. In such specimens they exist frequently as long (from half an inch to one inch), narrow, and often tortuous channels. To make a correct anatomical diagnosis, therefore, one has not only to have a knowledge of the condition but to examine very closely the thickened area and to search the mucous folds with a fine probe. I am convinced that many specimens on museum shelves would reveal the presence of such diverticula if more closely and specially examined (as in Cases 50, 52, 54, 64, 70). The freedom of the mucous membrane from ulceration explains the absence of blood from the stools in most of the cases. The following cases illustrate these points:—

CASE 45 (W. J. Mayo (48), 1906).—Female, 52 years of age. Chronic constipation and obstruction. Periodic attacks of pain in the lower bowel for five or six months. A left-sided pelvic tumour; operation for chronic obstruction. Death 18 days after from general peritonitis. Resected sigmoid flexure 17 centimetres long and 6 centimetres thick. Thickening of the sigmoid flexure due to chronic inflammation from the presence of numerous diverticula. Many contained enteroliths; none showed inflammation *within* the sac.

This is probably a case in which the chronic inflammation was due solely to the action of toxins.

CASE 46 (W. J. Mayo, 1907).—Male, 52 years of age. Some pain and nausea five months previously. Three weeks before severe pain and fever for two days. No constipation. The mass had been noted previously in the left iliac fossa. Symptoms of obstruction on admission. No blood in the stools. Diverticulitis suggested as a possible explanation. Resection of ten inches of the colon and the sigmoid flexure. Death occurred on the thirteenth day from general peritonitis. Chronic thickening of gut from inflammation round numerous diverticula.

This is the only case of the kind in which the correct diagnosis has been suggested before operation.

CASE 47 (Graser (23), 1898).—Symptoms and diagnosis of carcinoma of the sigmoid flexure. Stenosis of the sigmoid flexure five centimetres in extent, with much thickened walls. Adherent to the bladder. 35 diverticula present in the stenosed area, as well as others above and below the stenosis.

CASE 48 (Moynihan (52), 1906).—Male, 52 years of age. Chronic constipation. Symptoms of chronic duodenal ulcer. Recurrent intestinal obstruction, complete on third attack, led to supplementary diagnosis of carcinoma of the large bowel. A mass felt in the sigmoid flexure adherent to coils of intestine and the abdominal wall; five inches excised. Great thickening (one and a half inches) of a piece of gut due to cicatricial connective tissue causing stenosis. The mucous membrane was intact but showed numerous diverticula.

4. *The formation of adhesions.*—These must necessarily be formed in the course of the slower inflammatory processes and will, of course, be protective; they will tend to prevent perforation or, if that occurs, to limit the abscess and prevent infection of the general peritoneum. But much will depend on the structure to which adhesion takes place and on whether abscess or fistula formation occurs at the same time. Adhesions to loops of the small intestine or the bladder are the most frequent happenings so far noted. (*a*) *The adhesions to the small intestine* may produce acute or chronic obstruction: the three following cases illustrate this point. Besides being new to the literature they are, so far as I can ascertain, the only recorded cases of their kind in which the diverticular origin has been proved, the other cases of intestinal obstruction being due to the stenosis of the sigmoid flexure.

*CASE 49 (Moynihan, 1901).—Acute obstruction of the small intestine by adhesion to the sigmoid flexure. Male, 55 years of age. Admitted with five days' history of abdominal pain, vomiting, and constipation. Moderate abdominal distension, with peristalsis due to distended coils of small intestine. At the operation the small intestine, some distance above the ileo-cæcal valve, was found to be obstructed by an adhesion in the pelvis; the nature of this was not determined but the adhesions were separated. Double enterotomy was performed and the intestinal contents were evacuated. Death in five days from general peritonitis.

*Necropsy.*—Some emphysema. General suppurative peritonitis; the coils of intestines above the obstruction were gangrenous. The lower opening was leaking and was the cause of the peritonitis. The gut for a distance of about one foot was very much damaged where it had been adherent in the pelvis. There was much thickening of the bowel commencing four inches from the anus and extending upwards for about five inches; the thickening lessened from below upwards. There was considerable periproctitis and higher up peri- and meso-sigmoiditis, with adhesion to the pelvic walls. In the sigmoid flexure were numerous diverticula arranged in two rows and mostly entering the appendices epiploicæ; they varied from pea- to nut-size; they contained fæces and in the lower part of the sigmoid flexure were mostly ulcerated inside. Several had perforated and led into small abscess cavities which were in the midst of the inflammatory thickening above noted and had evidently given rise to it. The inflammatory changes in the diverticula had led to strong adhesion to a loop of small intestine and this had thereby become kinked, leading to the acute obstruction. The inflammatory process was undoubtedly chronic and of some standing.

*CASE 50 (Guy's Hospital Museum, Preparation No. 1071).—Strangulation by band. Male, 51 years of age. Admitted for anal fistula. Acute intestinal obstruction occurred after the administration of an enema. At the necropsy two appendices epiploicæ of the sigmoid flexure were found to be adherent to the mesentery of the ileum just above the cæcum. This adhesion formed a band below which was strangled a loop of ileum 8 feet in length. On examining the specimen its diverticular origin is apparent. A diverticular sac leads into one of the adherent appendices. Below the aperture of this are two other diverticula, one of which has a depth of half an inch into another epiploic appendage. There are also some thickening and narrowing of the gut.

*CASE 51 (1907).—Chronic obstruction of the small intestine by adhesion to the sigmoid flexure. Male, 54 years of age, well nourished; no constipation; no history of syphilis. Illness began in December, 1905, with sudden abdominal pain, rigor, and vomiting several times. The pain was very severe and there was diarrhœa for three days. The patient was in bed for a week and then he returned to work, but was never afterwards free from colicky pains at intervals. The pain came on about one and a half hours after food, especially after the heavier meals. No indigestion or bowel disturbance. Steady loss of weight. At Easter 1907, he had another attack of vomiting with rigor and pain in the lower abdomen. In bed for five weeks; not able to work after. On July 19th another attack of abdominal pain was experienced but no vomiting. He passed much wind by the mouth; rarely per anum. I saw the patient on July 26th in consultation with Dr. R. G. M. Ladell of Leeds. He looked markedly wasted and ill but was not anæmic. There was marked distension in the right iliac region; when an attack of colic was experienced this tumour became as large as a child's head and there were peristaltic movements to be observed over it. No solid tumour was to be made out; the rectum was normal. A diagnosis of chronic intestinal obstruction, possibly of the small gut, was made; carcinoma was not thought probable owing to the length of history (20 months) and the absence of the general appearance of cancerous cachexia. He was admitted to the Leeds Infirmary where Mr. R. Lawford Knaggs operated on the same day.

*Operation.*—The small intestine was obstructed by adhesion to a mass in the left side of the pelvis and this mass was found to be the lower part of the sigmoid flexure. It was thought to be malignant, and owing to the extensive adhesion removal was deemed impossible. Lateral anastomosis was performed. Death took place on August 2nd from general peritonitis.

*Necropsy.*—The peritoneum was flooded with fæcal material from leakage through the rotten bowel, which was riddled for some distance above the obstruction with stercoral ulcers. The obstruction was in the

upper part of the ileum and was caused by the adhesion above noted. On removing the sigmoid flexure and examining it carefully the condition was found to be as follows. The lower two-thirds presented numerous small diverticula, arranged mostly in two lateral rows; some were more mesially situated opposite the meso-sigmoid. Some contained fæcal material. There was chronic inflammatory peri-sigmoiditis, the lowest three or four inches of the gut having a wall half an inch thick. There was some narrowing of the lumen but no real obstruction. There was marked adhesion to the wall of the pelvis. On separating this a small abscess cavity was found into which at least one of the diverticula led directly. There was strong adhesion to the bladder and between it and the bowel a "double" abscess cavity existed, with a similar communication with the bowel. There was much general matting of the parts around, whereby a loop of small intestine had

FIG. 2.

Part of specimen from Case 51. The thickened sigmoid flexure is cut in half in its length. The white bristles are inserted into the orifices of diverticula. On either side of these, in the upper half of the specimen, the thickening of the wall of the bowel from chronic peri-diverticulitis is well seen. The dark bristle indicates the spot at which a diverticulum opened into a small, encysted abscess cavity.

become adherent and partial chronic obstruction had been caused by stenosis due to the inflammatory exudate. The small gut above the obstruction showed much thickening of its walls from muscular hypertrophy. There was some dilatation; below the walls and lumen were normal. The mucous membrane of the diseased sigmoid flexure was normal, except for marked rugosity with a tendency to polyposis of the folds of the mucous membrane. Many of the diverticula were concealed beneath these folds. The orifices were small in the thickened area.

(*b*) *Adhesion to the bladder: vesico intestinal fistula.*—From the situation of these diverticula this type of adhesion is not infrequent; it is noted in 16 of the collected cases. There seems to be a special tendency to the formation of fistulous communication between the sigmoid flexure and bladder, either directly through the diverticular sac or through an intermediate abscess cavity. Such a fistula resulted in 11 of these cases.

*CASE 52 (Guy's Hospital Museum, No. 945).—Vesico-sigmoid fistula. Male, 65 years of age. Admitted under Mr. Thomas Bryant for passage of wind (12 years) and fæces (six weeks) from the urethra. Colotomy; death in three days. The patient had been in the tropics but had not had dysentery. At the necropsy signs of former ulceration were observed six inches from the anus but none higher up. Description in catalogue: "Much thickened sigmoid which is contracted to some extent; unduly rugose but practically normal mucosa. There is a very chronic peri-sigmoiditis and a large mass of inflammatory tissue between it and the bladder; a small fistulous communication exists between them." This is an instructive and typical specimen: the thickened, stenosed, and rugose bowel, with two inches of inflammatory thickening between the bladder and the bowel. Into this can be seen extending in two or three places, diverticular passages, cut more or less obliquely across and lined with smooth mucous membrane. Beneath the rugæ, and not obvious until searched for with a probe, are the small orifices of many diverticula half an inch or more in depth. The fistula is a tortuous passage communicating with a small nut-sized abscess cavity.

5. *Perforation of the diverticula.*—From the ulceration of the wall and the pressure from within this will be necessarily a frequent result. But the results of such perforation will be very different according to (1) the acuteness of the ulcerative process; (2) the amount of chronic inflammatory thickening present; or (3) the presence of adhesions. These factors determine whether the perforation shall lead to (*a*) general peritonitis, (*b*) local abscess formation, (*c*) submucous fistulæ, or (*d*) fistulous communication with other viscera, notably the bladder, as described above. (*a*) *General perforative peritonitis* has occurred in 14 cases (Cases 44, 55, and 81 to 91).

*CASE 53 (J. Allan, 1906).—Male, 71 years of age. No constipation. For two years heart disease and anginal attacks. Complaint of abdominal pain a few days before death not noticed, as the patient had much abdominal pain for months. Death from general peritonitis. Aorta atheromatous throughout. Large heart. Sigmoid flexure and adjacent colon had numerous small diverticula; one had perforated by a minute opening.

(*b*) *Local abscess formation* has been noted in 24 cases (Cases 63 to 69 and others). There may be several small abscesses shut off by thick adhesions, or a single large abscess which determines the clinical picture. The abscess may be intra- or extra-peritoneal and may lead in turn to fistulous communication with the external surface (Case 67), with the bladder, or with the bowel (Case 79).

*CASE 54 (Guy's Hospital Museum, Preparation No. 842).—Local abscess. Male, 45 years of age. Had had dysentery and syphilis. Symptoms of chronic intestinal obstruction, causing death. Some time before death an abscess formed in the left iliac region and on being opened was "found to communicate with the intestine." The sigmoid flexure, for a distance of two inches, is narrowed by inflammatory thickening of its wall. The mucous membrane is smooth and presents near the mesenteric attachment the orifices of several deep sacculi into which the mucous lining dips; the orifices of smaller mucosal depressions are to be seen. There is some thickening of the bowel and into this one of the diverticula can be traced. Several other diverticula, the ends of which have been cut off in preparing the specimen, are to be identified. The diverticular nature of this specimen was evidently not recognised.

(*c*) *Submucous fistulæ.*—What has been noted in some of the cases with much inflammatory thickening is that ulceration of the inside of the sac leads to a small abscess; this happens in several foci in the thickened area. These abscesses tend to burrow through the thickened tissues and to form submucous fistulous communications with each other; there may be a labyrinth of such tracks. They may re-enter the lumen of the sigmoid flexure or communicate with a peritoneal abscess-cavity by one or several openings. This suppurating process is probably often exceedingly chronic and gives rise to great thickening, adhesion, and tumour formation, with sequelæ in the shape of obstruction of the small intestine or perforation of the bladder.

CASE 55 (Georgi (21), 1901).—Male, 64 years of age. For some years alternate constipation and diarrhœa. In the left lower abdomen an ill-defined immobile tumour; diagnosed as carcinoma. At the operation the tumour was deemed to be inoperable because of adhesions. Death from peritonitis following straining at stool.

*Necropsy.*—In the lower half of the sigmoid flexure a stricture three centimetres long was discovered. Above and below the stenosis were several diverticula admitting the tips of the little fingers; one of these entered an abscess-cavity (5 by 2 centimetres) between the muscularis and the much-thickened serosa. This communicated with several smaller diverticula, so that the strongly thickened serosa in its whole extent was undermined by fistulous tracks and abscesses. One of these had perforated, giving rise to acute general peritonitis.

6. *The lodgement of foreign bodies.*—The same reasons that cause these diverticula to contain fæces almost invariably will make them especially liable to harbour any of the various fragments of foreign bodies so frequently found in the fæces. These, once in the diverticulum, may give rise to perforation, diverticulitis, or local abscess. Bland-Sutton's cases are the most striking examples of this happening.

CASE 56 (Bland-Sutton (4), 1903).—Female, 60 years of age. Chronic intestinal obstruction; mobile tender lump in the left iliac fossa; loose stools. Diagnosis: Carcinoma.

*Operation.*—A hard oval body in the sigmoid flexure. The adjacent walls of gut were much infiltrated and regarded as carcinomatous; resection. The oval body was found to be a thickened epiploic appendage containing a foreign body (straw) and communicating with the lumen of the gut by a narrow channel.

CASE 57 (Bland-Sutton, 1903).—Male, 40 years of age. Acute pain, swelling, and tenderness in the left iliac region suggesting appendicitis with transposed viscera. At the operation there was an inflamed diverticulum on the descending colon. This entered an epiploic appendage and contained fæces and a foreign body. Resection of the appendage; recovery.

These cases remind one of a series of cases scattered throughout the literature in which there has been inflammatory change or adhesion limited to one or a few appendices epiploicæ. Treves (71) refers to several in which intestinal obstruction occurred, and though the diverticular origin was probably not investigated in many of them, in the light of subsequent observations it must remain a very likely explanation of a certain number. The following case, of proved diverticular origin, strongly supports the reasonableness of such an explanation.

*CASE 58 (G. W. Watson, 1907).—Female, 60 years of age. Body stout. No previous history. Left pyonephrosis. In the pelvis a

fæcal concretion of the size of a small bean, lying free. Another concretion of similar size and shape attached to the sigmoid flexure by a filamentous band about three-quarters of an inch long.

7. *Chronic mesenteritis.*—In some of the cases there has been much inflammatory thickening of, or abscess formation in, the sigmoid mesentery.

CASE 59 (Koch (44), 1903).—Male, 64 years of age. Chronic bronchitis. For one year constipation and abdominal pain, with much mucus and blood in stools. A tender moveable tumour in the left iliac fossa. Diagnosis: Stenosis from cancer.

*Operation.*—Colotomy. Death from peritonitis. 20 diverticula of the sigmoid flexure, two entering an abscess cavity adherent to the bladder. Stenosis of the gut; chronic sigmoid mesenteritis. No venous stagnation.

Brehms (5), Riedel (59), and Ries (80) have drawn attention to the effect of sigmoid mesenteritis in producing retraction of the sigmoid loop, adhesion of its limbs, and the consequent production of various forms of twist, kink, and volvulus of the bowel in this neighbourhood. They attach great importance to sigmoid diverticulitis in bringing about this chronic mesenteritis, although no case has so far occurred in which such an origin has been established beyond doubt. But Ries says: "It is safe to prophesy that this association of diverticular ulceration and meso-sigmoiditis will be frequently discovered in the near future." Other authors support this view, notably Tixier (81) and Gordinier and Sampson (22), whose case has an instructive bearing on the matter.

8. *Local chronic peritonitis.*—This is often found in the neighbourhood of the sigmoid flexure causing thickening, opacity, or adhesion of the peritoneum. Undoubtedly this is in many instances due to pelvic inflammation, but various observers, among them Georgi (21) and Graser (23) are now inclined to think that small, overlooked diverticula may be responsible for a certain number; that the chronic inflammation is the result of the leakage of toxins through the thinned walls. Sudsuki (70) found such local peritonitis as frequently in cases in which no diverticula were present as in those in which there existed diverticula of microscopic size. A much greater number of cases needs to be studied before the point can be settled.

9. *Metastatic suppuration.*—Only one case of this nature has so far been recorded.

CASE 60 (Mackie Whyte (77), 1906).—Male, 65 years of age. Alcoholic; stout; four weeks' illness with rigors and pyrexia. A limited necropsy revealed multiple abscesses of the liver; no pylephlebitis. In the wall of the sigmoid flexure was a cavity of the size of a thrush's egg, with smooth lining, communicating with the lumen of the bowel; the cavity was a diverticulum, and the inflammation was due to a fæcal concretion. There were numerous diverticula in the neighbourhood, mostly near the mesenteric attachment, but there was a row on the opposite side. Two or three of the size of a pea or bean contained fæces.

10. *The development of carcinoma secondary to diverticulitis.*—The following case is the classical example of this happening:—

CASE 61 (Hochenegg (35), 1902).—The patient, aged 70 years, had suffered from constipation. A carcinoma of the sigmoid flexure was resected; the flexure showed for a great distance numerous cherry-sized diverticula, filled with somewhat hard, plastic fæcal matter. The carcinoma was regarded as resulting from the chronic irritation and ulceration of the diverticula due to the retained fæces.

The association of carcinoma and diverticula is seen in Case 73 and in the following interesting case:—

*CASE 62 (1907).—Male, 58 years of age. Constipation and flatulence for many years. Symptoms worse, with loss of weight, for some time previously to admission. Shortly after this the patient developed general peritonitis and died. At the necropsy there were found the following: 1. Perforating appendicitis. 2. Multiple diverticula of the lowest four inches of the sigmoid flexure. This is thickened, increasingly from above downwards; it is fibro-fatty in nature and is most marked opposite the meso-sigmoid. The diverticula are for the most part currant-sized, contain fæcal concretions, and in many cases enter the appendices epiploicæ. But all are not so situate; some are between the layers of the meso-sigmoid. In some ulceration has occurred and this has led to the chronic perisigmoiditis and consequent partial narrowing of the gut. The diverticula have "lipped" openings. 3. At the splenic flexure is a narrow, stenosing carcinoma with a papillary surface towards the lumen of the bowel. It practically encircles the gut and causes partial obstruction. In it are to be made out several "pockets," suggesting those noted in the sigmoid flexure, but this origin cannot with certainty be determined. At the edges of the growth are several "cysts" filled with mucus. The gut between the splenic and sigmoid flexures presents no diverticula.

This case is interesting from the presence of three different lesions which may, however, be connected. Assuming that the chronic constipation caused the diverticula, the thickening of the bowel from the chronic diverticulitis would increase the constipation, and the resulting irritation to the bowel may have occasioned the carcinoma above, even if this was not directly due to the irritation of diverticula at this spot (thus making it a parallel case to Hochenegg's). The increasing obstruction of the bowel from the carcinoma was probably a predisposing cause to the perforating appendicitis.

11. *Perforation into a hernial sac.*—The following case is the only one so far recorded due to sigmoid diverticulum, though Klebs (43) has described a similar case in another part of the bowel.

CASE 63 (Stierlin (68), 1902).—Male, 71 years of age. Stout. Incarcerated inguinal hernia. At the operation suppuration in the sac from perforation of a diverticulum of the incarcerated piece of sigmoid flexure; the bowel was much thickened with an infiltration of the subserous fat sheets. Regarded as carcinomatous and resected. Sudden death in 15 days from cardiac degeneration.

*(To be continued.)*

# PRELIMINARY NOTE ON SOME ASPECTS OF SPLENIC ANÆMIA.

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SOME interesting points in regard to the possibilities of relief in cases of splenic anæmia have arisen in connexion with a case recently under my care and it seems advisable to bring them forward. For the notes of the case my warm thanks are due to my house physician, Dr. A. I. Shepheard-Walwyn, who will shortly publish an exhaustive account; it will be found to amplify our knowledge of the disease and to add some new features to the excellent summaries which we owe to the researches of Senator [1] and Osler.[2]

A railway guard, aged 36 years, born in Strathspey and engaged on the Highland Railway, was admitted to the Royal Infirmary, Edinburgh, on Sept. 26th, 1907, complaining of a growth in the abdomen. The patient had a good family history and his personal antecedents were satisfactory as regards habits and health. On Feb. 4th, 1907, he was severely shaken and his face cut in a railway accident, from which he dated his illness. About the end of February he began to vomit his food about an hour after every meal. He had no pain. The vomited matter was greenish and never contained blood. This continued until the beginning of June when his gastric symptoms improved, and he only vomited occasionally since. About the same time he noticed unusual pulsation in his throat but it gave him no trouble. In the middle of June he felt himself losing strength and noticed that his feet swelled when he was up. He took to his bed at this time and had been there ever since, gradually losing strength. His medical attendant afterwards noticed a swelling in his abdomen and sent him to Ward 29. On examination there was great enlargement of the spleen, which reached forwards to within three-quarters of an inch of the middle line and downwards to half an inch below the umbilicus; it measured seven inches in breadth. There was no change in any other gland. The blood showed 50 per cent. hæmoglobin, 2,250,000 erythrocytes, and 3600 leucocytes. The film gave the following differential count: polymorphonuclears, 73 per cent.; small lymphocytes, 23 per cent.; large mononuclears, 3 per cent.; and eosinophiles, 1 per cent. The staining of the erythrocytes was feeble and irregular, but there was no pronounced poikilocytosis. The patient complained of breathlessness on slight exertion, and also of a throbbing sensation in his chest, neck, and head. Diffuse pulsation was seen all over the chest, neck, and abdomen. The apex beat was forcible and diffuse but no thrills could be felt. The heart was slightly enlarged. There was a loud systolic murmur over the manubrium, propagated into the cervical and subclavian arteries. The second sound was replaced by a murmur softer in character, propagated down the sternum, and faintly heard in the tricuspid area. In the mitral area the first sound was followed by a soft systolic murmur, propagated into the axilla; the second sound was reduplicated. The vessels were slightly thickened. The systolic pressure was 108 millimetres Hg, and the diastolic 80. The rate was 86 and the character of the pulse was that of Corrigan. There was no evidence of renal implication.

As regards the progress of the case, the temperature fluctuated considerably but regularly. The differential

[1] Berliner Klinische Wochenschrift, 1901. S. 1145.

[2] American Journal of the Medical Sciences, 1900. p. 54, and Transactions of the Association of American Physicians, 1902, p. 429.

count changed, so that the lymphocytes usually formed about 35 per cent. The patient was treated with liquor arsenicalis in five minim doses, which were increased by Oct. 13th to 20 minims but had to be reduced. The leucocytes fell somewhat and remained fairly steady at about 2500 till Oct. 20th, when nucleinic acid was tried hypodermically in large doses, and the leucocytes rose to 4500. They once reached 5000. They did not remain at this height, however, in spite of large quantities of nucleinic acid, and fell away again to about 3800. The patient steadily put on weight during his first month in hospital, but he then gradually lost it again. He was at intervals much troubled with abdominal pain, diarrhœa, and vomiting, which seemed to have been due to the large doses of arsenic. During November he became steadily worse and suffered from some severe attacks of epistaxis. In these circumstances the question of splenectomy, advocated by Harris and Herzog[3] and endorsed by Stengel,[4] naturally came up for discussion, but it occurred to me that before considering the advisability of recommending such a serious step it would be well to ascertain the state of the bone marrow in order to determine whether any useful end might be attained by surgical intervention. The whole state of matters was therefore explained to the patient who gladly hailed the suggestion of a small operation so evidently fraught with promise of utility. Mr. F. M. Caird accordingly was so kind as to trephine the left tibia on Dec. 1st and a small portion of bone marrow was removed for investigation. Careful examination by my own staff and by Dr. W. E. Carnegie Dickson, of the pathological department, showed that a high degree of gelatinous degeneration was present without any appearance of regeneration. It was therefore clear that no hope lay in splenectomy and the patient was not subjected to operative procedure. During December there was recurring hæmorrhage from most of the mucous membranes as well as from the kidneys. Anasarca and hydrothorax developed, but the end came on Jan. 14th, 1908, with a sudden attack of hyperpyrexia. The subsequent examination showed the characteristic appearances of splenic anæmia and the state of the bone marrow fully confirmed the conclusions to which we were led during life.

Edinburgh.

## A CASE OF OBSTRUCTION CAUSED BY SARCOMA OF THE SMALL INTESTINE.

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I AM indebted to Mr. Stephen Paget, who was in charge of the following case, for permission to publish these notes.

In May, 1907, a woman, aged 62 years, was operated upon for a strangulated femoral hernia on the right side. At the operation the sac was found to contain omentum and a small portion of dark-coloured intestine, which was replaced within the abdominal cavity. Recovery was uneventful but from the time of her discharge, three weeks after the operation, pain had been present in the abdomen. Not very severe at first, it had gradually become more intense, coming on in paroxysms and commencing in the left iliac region. Some difficulty had been experienced in getting the bowels open for a fortnight previously to her admission a second time, and intermittent attacks of vomiting had occurred for two months.

The patient was again admitted in October, 1907. She was sallow of complexion and very thin but did not look seriously ill. On examination the central part of the abdomen was a little distended, and after palpation had caused peristalsis masses of distended gut could be seen writhing beneath the abdominal wall, the movement passing generally from left to right and being most marked in the umbilical region. The distension was accompanied by acute pain, but after a few minutes borborygmi would be heard and the peristalsis disappeared from view. No tumour was detected on palpation either abdominally or per rectum, but some tenderness was present over the lower part of the abdomen.

An exploratory laparotomy was performed and two bands were discovered, attached side by side below to the crural ring on the right side and above, about half an inch apart, to a knuckle of small intestine. They were an inch in length and as thick as a No. 4 catheter. After division of the bands between ligatures a further investigation showed a mass resting on the edge of the pelvis. It proved to be freely moveable and when brought out of the wound was found to be a growth involving a portion of the small intestine. The bowel above was much dilated and that below contracted, so the growth was freely excised, together with a good margin of bowel and mesentery, and a lateral anastomosis performed. Recovery was slow but uneventful and the patient was discharged in the latter part of November with the obstruction entirely relieved. When last seen (March, 1908) she was very well and was following an active life.

The specimen removed consisted of a ring growth in the lower part of the ileum. It was about one inch wide and half an inch in thickness, the maximum measurements being at the mesenteric side of the bowel. The calibre would not admit the little finger. The mesentery was not invaded and the peritoneum over the mass was normal. No enlarged glands were found at operation. On opening the intestine the growth projected into the lumen of the gut and was covered with healthy mucous membrane, no ulcerated surface being present. The tumour was sent to the clinical laboratory and under the microscope it proved to be a typical round-celled sarcoma. On receiving the report the patient was carefully examined with a view to finding, if possible, evidence of sarcoma elsewhere, but none was discovered.

Sarcoma of the small intestine is a disease mainly affecting adult life, although no age is immune, and of the 67 cases collected by Corner and Fairbank four only were over 50 years of age. In the same series of cases obstruction was present in only 11 per cent. Clinically, as the above-mentioned authors point out, it is practically impossible to differentiate between sarcoma and carcinoma affecting the small intestine. As in this case there are no points which would lead to the supposition that the case is one of sarcoma rather than carcinoma, and the final diagnosis between the two diseases must rest with the pathologist.

[3] Annals of Surgery, 1901, p. 111.

[4] Nothnagel's Practice: Diseases of the Kidneys and of the Spleen, edited by A. Stengel, 1905, p. 602.

## DEATHS UNDER ANÆSTHETICS.

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THE problem of deaths during anæsthesia arose soon after the introduction of that comparatively modern method of suspending consciousness for medical and surgical purposes. In the following brief examination it is proposed to deal with general anæsthesia produced by the inhalation of volatile drugs, as distinct from partial anæsthesia produced by the injection of drugs either locally or into the spinal canal or by such mechanical agencies as freezing or electrical currents. There is no particular need either to define general anæsthesia or to enter into the physiological action of the various drugs used for the purpose of suspending consciousness, neither is it proposed to enter into the debateable ground of the causation of death in fatal cases of anæsthesia. The main object in view is rather to ascertain, so far as may be possible, (1) the exact facts of the mortality due to that cause; and (2) to examine the machinery whereby statistics of the kind are officially presented to the Registrar-General of England and Wales.

1. *The mortality from deaths under anæsthesia so far as available from present statistics.*

The annual reports of the Registrar-General for England and Wales for the years 1902–06 give a total of anæsthetics for operations: 1902, 143; 1903, 146; 1904, 154; 1905, 155; 1906, 183; total, 786; or an annual average of 157·1 deaths. In these 786 deaths the anæsthetic used was: ether alone, 41; chloroform, 478; nitrous oxide, 11; nitrous oxide and ether, 3; A.C.E. mixture, 16; chloroform and ether, 17; ethyl chloride, 15; atropine, 1; and drug not stated, 204. It is obvious from a mere glance at these returns that they are not of much use from a statistical point of view. They merely show that a considerable number of deaths take place every year during general anæsthesia. The fact that the precise drug used has not been reported in 204 cases, or about 25 per cent., renders the figures useless so far as

indicating the relative danger attached to individual drugs. Nor is the practical value of the return enhanced if we turn to the second point, namely,

2. *The machinery whereby the statistics of the Registrar-General are obtained.*

The information as to deaths under anæsthesia is gathered from two sources. First, the copies of verdicts sent by coroners to the registrars of deaths and by them to Somerset House; and secondly, death certificates signed by medical practitioners. Both these sources of information are open to serious fallacies so far as the conveyance of anything like an adequate representation of the actual deaths under general anæsthesia that take place annually in England and Wales.

(*a*) *Coroners' returns.*—It by no means follows that a coroner holds a public inquest into the cause of every death reported to him as occurring under anæsthesia. At the same time the practice of holding an inquest in such circumstances is undoubtedly more common than it was a few years ago. In the annual report of the Coroners' Society for England and Wales for 1902–03 it was specifically advised that "inquests should be held on all deaths occurring whilst under the influence of an anæsthetic irrespective of whether the friends or those specially concerned in the administration of the anæsthetic and the operation were satisfied in every way or not." As a matter of fact, a certain number of coroners in England and Wales are not members of the society. In any case, it may be safely assumed that in a proportion of cases which it is impossible to estimate inquests are not held by coroners upon deaths reported to them to have occurred under anæsthesia.

(*b*) *Death certificates by medical practitioners.*—Judging from the reports of cases in the public newspapers the majority appear to come from public hospitals. Bearing upon this point is a recent statement of Mr. Troutbeck, the coroner for Westminster. Of 174 deaths reported to him during the past six years as occurring under anæsthesia only three came from private as apart from hospital practice. It seems unlikely that the brunt of this particular form of fatality should fall thus disproportionately upon hospital patients. We are therefore led to the conclusion that it is not the general custom to report deaths under anæsthesia in private practice to the coroners. There are various reasons why the friends no less than the medical men concerned should be anxious to avoid publicity in these painful circumstances; moreover, evasion is not a difficult matter. In one case brought under my own notice as coroner death was certified as due primarily to shock after operation of excision of the eye-ball, and secondarily to heart failure. As a matter of fact, the patient died five minutes after cessation of anæsthesia from the effects of which he was stated to have partially recovered. By a simple extension of this process it is easy enough to attribute a large number of cases of death to causes other than those of the anæsthetic. Then, again, the medical man is not compelled by any statutory obligation to report cases of death under anæsthesia to the coroner, and it is natural that he should take advantage of that fact to avoid publicity of an unpleasant nature. It is open to question whether he is not bound in common law to report such a death along with all others of a violent or an unnatural kind. But the general practitioner or the operating surgeon anxious to avoid publicity is not likely to trouble his head about legal niceties of that kind, even if he were aware of their existence. We may therefore conclude that the machinery whereby the information of the Registrar-General is collected is inadequate and defective both as regards coroner's verdict and death certificate. Some of the foregoing points are borne out by my own experience as coroner for the City of London and the borough of Southwark. From the non-residential character of the City and the fact that the majority of Southwark residents are mainly of the hospital class the proportion of patients undergoing private operation is necessarily small. As a matter of fact, no case of fatal anæsthesia in private practice has been reported to me during an experience of six and a half years. On the other hand, the fact that my jurisdictions include two of the largest general hospitals in London offers some other returns of special interest.

During the time mentioned, in one hospital, which we will call A, there were 39 inquiries of the kind and in the other, which we will call B, 21. The beds were about equal in number in the two institutions. With regard to statistics, the methods of B are much more ample than those of A. For example, A keeps no official record of many of the administrations such as those given by the house residents for the visiting surgeons or by juniors acting under one of the special anæsthetists. The name of the administrator is entered but no account of the anæsthetic is given in the case of operations in the surgery or in the obstetrical department. In the dental and throat departments the name of the operator, the administrator, and the drug used are entered. There appears to be no definite system whereby an accurate account is kept of the number and essential details of all anæsthetics administered within the walls of the hospital. In B, on the other hand, the system is much fuller. An endeavour is made to enter details of every anæsthetic administered within this institution. A register of deaths under anæsthetics is kept with fairly full details, except that the names of the operators are omitted. Inquests have shown that all deaths save two occurred under special anæsthetists, of whom two are resident and three visiting. That the system of administrative control is not perfect, however, is shown by the fact that one death under chloroform was not reported to me as coroner.

Clearly no sound conclusions can be drawn from any comparison of the results obtained from these two institutions, which, it may be assumed, are fully abreast, if not in advance, of the majority of the hospitals of the United Kingdom in these matters. Indeed, we shall not be far wrong, in my opinion, if we assume that little is known as to the relative mortality and the actual facts of death during anæsthesia occurring in hospital practice generally in England and Wales and practically nothing of the facts in private practice.

During the last six and a half years I have held inquests upon 63 deaths during anæsthesia. These all occurred in hospitals and were distributed as follows:—

| | Number of deaths. |
|---|---|
| In A (general hospital) ... ... ... ... ... | 39 |
| In B ,, ... ... ... ... ... | 21 |
| In C (special hospital) ... ... ... ... ... | 2 |
| In D ,, ... ... ... ... ... | 1 |
| Total ... ... ... ... ... ... ... ... | 63 |

It is my practice to hold a public inquiry in every case of the kind reported to me. The Coroners Act, 1887, directs the coroner to hold an inquest in all cases in which he is of opinion that there is reasonable cause to suspect that such person had died a violent or an unnatural death. There can be little doubt as to the proper legal course to be pursued by the coroner, but he is powerless without the coöperation of medical men. So long as there is no properly recognised statutory obligation upon medical men to report fatal cases of deaths occurring under anæsthesia, so long will it be impossible to obtain any adequate idea of the extent to which such fatalities occur in medical and surgical practice.

Imperfect as these particular returns are for England and Wales they are infinitely superior to those available in the case of Scotland and Ireland. In Scotland one only source of information is the annual report of the Registrar-General. It has been the custom to classify all cases of deaths under anæsthesia under the heading of violent deaths and the subheading poisons and poisonous vapours. In 1905 the body of the report specifically mentions that "among the accidental deaths from poisons there were 17 from chloroform and one from ethyl chloride."[1] The official report for the year 1906 is not yet available. The method of the investigation of violent or unnatural deaths in Scotland being by private inquiry of the Procurator Fiscal is hardly favourable to a full statement of the facts with regard to so delicate a matter as that of fatal anæsthesia. The general proportion of deaths to administrations has been to some extent, even if roughly, ascertained by the experience of other countries. Taking the average deaths for England and Wales and allowing for difference of population and assuming, as we may fairly do, that anæsthetics are not less universally employed in Scotland, we may safely conclude that the following figures of the Registrar-General for the years 1902–05 understate the actual facts of the case.

| | 1902. | 1903. | 1904. | 1905. |
|---|---|---|---|---|
| Chloroform ... ... ... ... | 14 | 17 | 16 | 17 |
| Ethyl chloride ... ... ... | 0 | 0 | 1 | 1 |
| Totals ... ... ... ... | 14 | 17 | 17 | 18 |

[1] The Annual Report of the Registrar-General of Scotland for 1905, p. xxx.

It will be noted that no mention is made of deaths under ether or other anæsthetics than chloroform and ethyl chloride.

When we turn to Ireland the returns are still more obviously misleading. In the year 1906 there is one death officially attributed to chloroform by the Registrar-General. In 1905 and 1904 three are reported under the same heading for each year. In 1903 two are reported under chloroform and one under anæsthetic.

*Conclusions.*

1. That present available data as to deaths during anæsthesia are so imperfect as to be useless for the purposes of formal investigation.
2. That the Registrar-General's returns of such deaths are for the most part obtained from coroners' returns of deaths occurring in hospital practice.
3. That only a small proportion of deaths under anæsthesia in private practice ever come to the notice of registrars or coroners.
4. That imperfect as are the returns for England and Wales, those of Scotland and Ireland are still less trustworthy.
5. That with such imperfect data it is impossible to form any trustworthy conclusions as to the absolute rate of fatalities to administrations, or to the relative proportion of deaths to administrations in the case of particular anæsthetic drugs.
6. That it is highly desirable to arrive at satisfactory conclusions as to the precise facts of all deaths under anæsthesia both for the safety of the public and the furtherance of scientific knowledge.

*Recommendations.*

1. That no general or local anæsthetic shall be administered by any but a duly qualified medical man, except in most exceptional circumstances, which shall be duly reported to some recognised official authority.
2. That full details be kept by the anæsthetist of all administrations of anæsthetics whether in hospital or in private practice, including date, name and address of patient, of operator and of administrator, nature of operation, the drug used and other pertinent details.
3. That a register of all administrations of anæsthetics be kept in all medical charities, Poor-law infirmaries, asylums, and other public institutions.
4. That so far as possible special skilled anæsthetists be appointed to all hospitals and infirmaries and that resident anæsthetists be provided in the larger institutions.
5. That when the administration of an anæsthetic is intrusted to a junior qualified man, he should be supervised by a skilled anæsthetist, except where he can produce a certificate of special skill and experience as an administrator, or where a skilled anæsthetist is not available.
6. That notification be made to the coroner of all deaths occurring at any stage of general anæsthesia by the anæsthetist, or by others concerned.
7. That coroners be required to hold a public inquiry into all cases of death during anæsthesia and that they make a detailed report to the Registrar-General together with the verdict.
8. That a Royal Commission might with advantage be appointed to inquire into the present facts of deaths under anæsthesia so far as may be ascertainable.

Golden-lane, E.C.

GYNÆCOLOGY IN ST. PETERSBURG.—The equipment of the new building of the St. Petersburg Gynæcological Institute has recently been finished and according to local belief the institution surpasses all other existing gynæcological institutes in size. It has 86 wards for patients, of which four are general, and is supplied with all the latest apparatus, including plant for "water cure" and for mud baths, douches, and massage. The operating theatre has been planned with complete regard for the demands of modern scientific surgery. Gynæcological advance in one direction is counterbalanced, however, by retrogression in another, if what we read in the *Novoe Vremya* states the case exactly. Our Russian contemporary announces with regret that there is a proposal before the St. Petersburg town council to close the Suvaroff School of Obstetrics in order to economise the paltry sum of £500. The school was established in 1868.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### NOTE ON A CASE OF PANCREATITIS WITH JAUNDICE AND ACUTE PAROTITIS IN SCARLET FEVER.

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A NURSE from a large metropolitan hospital, aged 27 years, was attacked with sore throat on Nov. 16th, 1907; on the 17th she vomited and a rash appeared; she was admitted under my care at the London Fever Hospital on Nov. 21st with a well-marked rash of scarlet fever and with sore throat, cultures from which showed streptococci and staphylococci. The temperature was 103·4° F. The fever ran the usual course, the temperature falling to 97·4° on the evening of the 25th; on the 27th there was a slight trace of albuminuria, the patient became jaundiced and the stools were colourless; the temperature rose to 101·4° and deep down in the region of the head of the pancreas there could be felt a tender swelling; by the 31st this had become considerably larger, and on Dec. 5th the jaundice was fairly deep; the temperature had fallen on Nov. 29th to normal, and the pulse was 50 per minute; on Dec. 5th it rose to 100·6° and there was pain on the right side of the face, and the parotid gland became swollen, with pain on mastication. On the next day this enlargement was more marked; after Dec. 12th the swelling of the parotid gland soon subsided and the jaundice faded away. The patient left the hospital cured in January, 1908.

Jaundice is not common in scarlet fever. According to Osler it occurred in only 15 out of 5000 cases; in very rare cases the jaundice seems to have been a part of some fatal toxæmia accompanied by fatty degeneration of the liver; in most cases, as in the present one, it is slight in character, temporary, and not dangerous. Such cases are usually looked upon as cases of "catarrhal jaundice." The slight pain and the marked tenderness and swelling in the region of the head of the pancreas that occurred when the jaundice came on rendered it highly probable that it was due to an inflammatory swelling of the gland and the sudden attack of parotitis a few days later was confirmatory of this supposition, for the parotid and pancreatic glands are much allied in structure and several cases are on record of their being simultaneously attacked. In most of these cases the pancreatic inflammation has followed an attack of epidemic mumps; in the present case the swelling of the parotid gland was not due to mumps but was of the non-contagious variety met with sometimes after typhoid fever and various other conditions; and the parotitis followed the pancreatitis instead of preceding it.

The case seems worthy of record as in scarlet fever parotitis and jaundice are each of them uncommon events and I have never before met with the two in the same patient suffering from scarlet fever. The case suggests, too, a probable explanation of the jaundice occasionally occurring in scarlet fever, and incidentally, it may be added, it supports the contention that the so-called "catarrhal jaundice" occurring apart from scarlet fever is more often due to obstruction of the common bile-duct by the pressure of an enlarged head of the pancreas than by thickened mucus within the duct.

Upper Brook-street, W.

### DO FLEAS SPREAD CANCER?

BY VERE G. WEBB, L.R.C.P. & L.M. IREL.

THE causes of the formation of cancer are still so obscure that it appears best to record any case in which there seems to be even the slightest clue to follow up. The following case may have some bearing on the point.

The patient, aged 58 years, the mother of seven children, had been in the habit of visiting, from charitable motives, a very poor woman suffering from advanced rectal cancer. On

one of the last evenings of November, 1907, while sitting by the woman's bedside, she was severely flea-bitten on the right breast. On Dec. 2nd, at about 3 P.M., she showed me the breast in which she had not previously noticed any alteration. The skin was hotter than over the left breast and was slightly inflamed, and the whole breast looked like that of a woman on the third day after delivery, except that the nipple was a little retracted. The diagnosis was interstitial mastitis, and the breast was bandaged over a pad soaked in glycerine of belladonna. After about a week's treatment all external signs of inflammation were gone, and the breast was nearly its normal size; but in a few days it had enlarged again, though not nearly to the same extent. There was very little pain and the size kept fluctuating. In the second week of January last the swelling became more localised in the upper and outer segment. Rubbing with ointment of iodide of lead was tried and there was a slight discharge of blood from the nipple. On Feb. 1st the patient went to Miss L. B. Aldrich-Blake, who diagnosed obstruction of ducts by papilloma and congestion. She advised removal and arranged for the operation to be done at the New Hospital for Women, Euston-road, when there was a vacant room. On Feb. 17th the patient was admitted to the hospital and on the 18th Miss Aldrich-Blake removed the entire breast and a gland which was enlarged. The patient made a very quick recovery. The naked-eye appearance of the growth confirmed Miss Aldrich-Blake's opinion.

On microscopic examination the growth showed in parts simple papilloma, but in others the papillary growths had malignant characters—i.e., the case proved to be duct carcinoma. The gland showed no malignant characteristics.

It seems possible that the whole trouble has been due to the flea-bite inoculating cancer germs. Of course this may be wrong and the growth immediately after may have been only a coincidence, but it seems worth while testing whether inoculation can be produced in this way. The points to be emphasised are: (1) that the patient was bitten by fleas from the bed of a cancer patient; (2) that there followed an inflammation (though it was not necessarily *post hoc propter hoc*); and (3) that after about a fortnight a definite growth developed, ending in duct carcinoma.

New Kent-road, S.E.

## A CASE OF MULTIPLE CONGENITAL DEFECTS.

BY J. SIDNEY PEARSON, M.A., M.B. CANTAB.,
CLINICAL ASSISTANT IN THE OPHTHALMIC DEPARTMENT OF EVELINA HOSPITAL FOR SICK CHILDREN, SOUTHWARK BRIDGE-ROAD, S.E., ETC.

THE patient, a female, aged eight weeks, was taken to the out-patient department of the Evelina Hospital on account of a discharge from the left eye since birth. On examination the child was found to have the following deformities. 1. Congenital occlusion of the left naso-lacrymal duct, causing a dacryocystitis. There had been a discharge from the right eye also since birth up to four weeks previously, when, as often happens, the duct becoming patent the discharge ceased. 2. The left eye was a microphthalmos with coloboma of the iris downwards and outwards, associated with coloboma of the choroid. 3. The right eye presented coloboma of the iris downwards and inwards with an associated coloboma of the choroid. 4. The right ear was deformed, the pinna being folded inwards upon itself and having two supernumerary auricles in front of it. 5. The left ear presented a pit in the position of the pre-auricular sinus. 6. The anus at birth was so small that only a No. 3 Jaques catheter could be passed. At four weeks the child was almost unable to pass anything through this aperture, so Mr. H. S. Clogg performed a very successful operation, making a good opening and bringing down the mucous membrane. The child appears to have control of the sphincters. The eyelids, lashes, and lenses were normal and no other deformities were detected.

The child is the last of ten, both parents being over 40 years of age. There is no known congenital defect in any of the other children. The pregnancy went to full time and the labour was very easy and non-instrumental. The baby at birth weighed six pounds.

Apart from the rarity of so many associated defects, especially of the eyes, the case is of some interest from the point of view of "maternal impressions." The nurse who brought up the child states that the mother is a very nervous woman who when seven months pregnant was definitely ill after seeing a friend who had had an eye "gouged out." This seemed to prey upon her mind and she became hysterical a week or two later when seeing a facial contortionist on the stage who reminded her of this friend.

I am indebted to Mr. Sydney Stephenson for his kind permission to publish the case.

New Cavendish-street, W.

# Medical Societies.

## ROYAL SOCIETY OF MEDICINE.

### SURGICAL SECTION.

*Lumbar Puncture in the Treatment of Otitic Meningitis.*

A MEETING of this section was held on March 10th, Mr. J. WARRINGTON HAWARD, the President of the section, being in the chair.

Mr. ARTHUR E. J. BARKER read a paper on the Possible Uses of Lumbar Puncture in the Treatment of Otitic Meningitis. He suggested that lumbar puncture might with advantage be more freely employed by surgeons than hitherto in cases of meningitis due to ear disease. Its great value as an aid to early diagnosis in obscure cases of this disease was first pointed out. Then the suggestion was made that where the products of the meningeal inflammation had been demonstrated in the lumbar sac their removal should be provided for by repeated tappings at regular intervals as an adjunct to other forms of surgical treatment. It was pointed out that this frequent unloading of the inflamed arachnoid space of septic products and their replacement by fresh cerebro-spinal fluid was theoretically correct, especially if there were, as many supposed, certain anti-bodies in the cerebro-spinal fluid which were hostile to bacterial growth. Some clinical facts were then brought forward in support of this last view, especially derived from bacteriological study of the fluid removed in the three cases which formed the basis of the paper. The most remarkable fact was that in the two first cases in which the first tappings yielded turbid greenish semi-purulent fluid swarming with bacteria, the fluid became sterile after a few subsequent punctures although still swarming with leucocytes. The experience of other observers who had treated epidemic cerebro-spinal meningitis by frequent tappings of the lumbar dural sac was also adduced in favour of the procedure. From that they learnt that recovery had followed the treatment in a high percentage of cases. They also learnt that no ill effect had followed from the puncture, generally or locally, in any case. The fear that local irritation might be produced in the track of the needle by the leakage of inflammatory fluid had been shown to be groundless by published cases and by his own experience in the numerous tappings of the cases now recorded. The unmistakeable improvement which followed every tapping in the height of the disease in the first case, and to a lesser degree in the second case, was most remarkable, and beyond all doubt contributed to their recovery. The first tapping in the third case appeared to be beneficial, but the streptococcal infection present was too virulent and the complications of widespread cranial thrombosis were too severe to admit of recovery. The turbidity of the fluid drawn off corresponded with the severity of the meningitis, but it was shown by the observations of Dr. F. H. Thiele as well as those of others that a fluid clear to the naked eye might contain multitudes of leucocytes during convalescence but be absolutely sterile on all the usual media. Improvement was indicated by a relative decline of the polymorphonuclear cells and relative increase of ordinary leucocytes, then in the diminution of all cellular elements in the fluid drawn off. Relapses of leucocytosis were seen during convalescence, probably called forth by reinfection from the cranium, but this was not accompanied by reappearance of bacteria; this had also been seen by other observers. The experience in these cases lent support to the views of those who hold that there exists, either normally or as the result of inflammation, certain anti-bodies in the cerebro-spinal fluid hostile to some varieties of bacteria. The following tables refer to the first two cases.

CASE 1.

| Date. | Number of cells per cubic millimetre. | Differential count. | | Character of fluid to the eye. | Presence or not of bacteria. |
|---|---|---|---|---|---|
| | | Polymorphonuclear cells. | Other lymphocytes. | | |
| Oct. 20th. | — | — | — | Normal. | Few diplococci (? contamination). |
| Nov. 8th. | ? | 95% | 5% | Thick, greenish. | Micrococcus catarrhalis countless. |
| ,, 11th. | 6,600 | 29% | 70% | Turbid, greenish. | Micrococcus catarrhalis, not so many. |
| ,, 18th. | 10,000 | 58·8% | 41·2% | Less turbid. | Micrococcus catarrhalis, a few still. |
| ,, 27th. | Few. | Few. | Few. | Still less turbid. | Ditto and some Gram-staining diplococci and rods. |
| Dec. 3rd. | 150 | ,, | ,, | Nearly clear. | A few micrococcus catarrhalis; no others. |
| ,, 5th. | 300 | Very few. | — | Clear. | None on culture or by staining films. |
| ,, 7th. | 120 | — | — | ,, | None after four days on culture. |
| ,, 16th.* | 2,000 | 90% | 10% | ,, | None seen or on cultures. |
| Jan. 4th. | 150 | 20% | 80% | ,, | None. |

* This count was repeated several times, as there was such an increase of total leucocytes as to suggest an error. The several counts proved the estimate to be correct.

CASE 2.

| Date. | Number of cells per cubic millimetre. | Differential count. | | | Character of the fluid to the naked eye. | Presence or not of bacteria. |
|---|---|---|---|---|---|---|
| | | Polymorphonuclear. | Lymphocytes. | Endothelial cells. | | |
| 1907. | | % | % | % | | |
| Dec. 3rd | 3,670 | 72·8 | 20 | 7·2 | Slightly turbid. | Rods with polar staining. |
| ,, 4th | 2,100 | 76·2 | 19·6 | 4·2 | ,, | None seen on any cultures, whether blood-serum, glucose agar, gelatine milk, broth. |
| ,, 5th* | — | — | — | — | — | — |
| ,, 6th | 1,000 | 75·8 | 20·4 | 3·8 | Less turbid. | None seen; no growth nor cultures. |
| ,, 7th | 18,000 | 74·1 | 22·7 | 3·2 | Turbid. | ,, |
| ,, 9th | 14,000 | 75·8 | 22·4 | 1·8 | More turbid. | ,, |
| ,, 10th | 16,000 | 78·8 | 19·0 | 2·2 | ,, | ,, |
| ,, 14th | 3,000 | 70·0 | 30·0 | — | Less turbid. | ,, |
| ,, 19th | 19,000 | 58·0 | 40·0 | 2·2 | Slightly turbid. | ,, |
| ,, 22nd* | — | — | — | — | — | — |
| ,, 25th* | — | — | — | — | — | — |
| 1908. | | | | | | |
| Jan. 4th | 300 | 42·8 | 56·0 | 1·2 | Clear. | ,, |
| ,, 14th | — | — | — | — | ,, | — |

* Not examined.
Cytolysis was, on Dec. 4th, not marked; and on Dec. 19th, marked.

Mr. C. A. BALLANCE said that he had had some cases of the same kind as those described by Mr. Barker and had been much impressed with the great advantage of the treatment. He divided cases of meningitis into two classes, meningitis serosa and meningitis suppurativa. The first was a stage previous to the second and by means of lumbar puncture the inflammation was arrested and the disease did not pass on into meningitis suppurativa. In this second stage turbid spinal fluid did not necessarily mean that the case would end fatally, for the condition might improve with repeated lumbar punctures, and in that way great assistance was rendered in the management and care of these cases; but suppurative meningitis of a fulminating character could not be expected to yield to such a method of treatment.

Dr. F. E. BATTEN said that in his experience the percentage of recoveries from sporadic meningitis in children before the use of lumbar puncture was between 30 and 40. After the introduction of lumbar puncture for the purpose of diagnosis the percentage of recoveries did not alter, but Flexner in cases of epidemic cerebro-spinal meningitis had succeeded in securing better results by injecting anti-meningococcic serum into the spinal canal.

Mr. BARKER in his reply referred to the help which he had received from Dr. Thiele and Lieutenant-Colonel C. Birt, R.A.M.C.

## CLINICAL SECTION.

*Hermaphroditism in which the Uterus occupied the Sac of an Inguinal Hernia.—Angina Pectoris with Aortitis.—Cerebellar Tumour with Proptosis.—Purpura Hæmorrhagica with Fatal Result from Cerebral Hæmorrhage.*

A MEETING of this section was held on March 13th, Sir THOMAS BARLOW, the President, being in the chair.

Mr. T. H. KELLOCK read a paper on a case of Hermaphroditism in which the Uterus occupied the Sac of an Inguinal Hernia. He said that when operating on a man, 25 years of age, for an inguinal hernia a second sac was found communicating with the peritoneal cavity. On pulling on the sac gently a mass of some size was brought out which was found to be adherent to the inner wall of the sac and only partly covered by peritoneum; it was drawn well out and proved to be a uterus of about the size of a horse-chestnut; on the upper side, on what would be the right side of the organ, there was a well-marked broad ligament and leading from the right cornu a round ligament terminating in a blind expanded end. Lying on the back of the broad ligament and in the usual situation of the ovary was a small oval-shaped very white body of about the size of a haricot bean, irregular on the surface. A definite fibrous band leading from the left cornu of the uterus down the posterior wall of the sac towards the left testicle but not connected with this or the vas deferens was all that could be found representing the left broad ligament. The opening into the second sac was closed by a continuous suture; the sac was freed from its connexions with external structures and reduced with the uterus into the abdominal cavity without much difficulty.

Dr. F. PARKES WEBER read a paper on a case of Angina Pectoris with Aortitis. He said that the patient, a married woman, aged 42 years, was admitted at the German Hospital on the morning of Jan. 2nd, 1908, and died in the afternoon of the same day. She was a fairly well-nourished, pale-looking woman of medium size and complained of great pain in the chest to the left of the sternum just above the cardiac area. Over this area there was a good deal of rather coarse crepitation to be heard but he could make out nothing special by examination of the heart and abdominal organs. The temperature was against the idea of any acute inflammatory condition. She was treated with hypodermic injections of camphor in oil and with small doses of alcohol, as if for a condition of collapse. In the afternoon she was given one subcutaneous injection of three minims of liquor strychninæ hydrochloratis (which seemed to make no difference), and oxygen inhalation was employed. The pain, however, persisted, the pulse became weaker, and the crepitation in the upper part of the left lung (back as well as front) became more marked. There was likewise a little fine crepitation over the right lung. She vomited three times in the hospital and had vomited once before admission. She died suddenly about 5 P.M., about eight hours after her arrival. The husband gave no definite history of syphilis. The patient herself had had four children; the two younger ones only were still living. Of the two elder children one was born dead and the other died soon after birth. The history suggested that the illness was a kind of ingravescent angina pectoris ending in a "status anginosus" and syncope. The pathological changes were practically confined to the thoracic aorta and the orifices of the coronary arteries, the whole being evidently the result of a process of aortitis affecting chiefly the first part of the aorta. The first portion of the thoracic aorta was much sclerosed and irregularly thickened, and slightly bulged as if aneurysmal dilatation were commencing. The orifices of both coronary arteries were much stenosed owing to the aortitic change, but excepting for this stenosis at their orifices both vessels were practically free from disease. The heart, of about normal size, weighed 12 ounces

and its muscular substance did not appear diseased; there was no valvular affection. Microscopical examination of a piece of thickened ascending aorta showed the pathological process to be one of aortitis, as yet unaccompanied by any marked atheromatous or calcareous degenerative changes. The intima was irregularly thickened, and in the media and adventitia there were numerous patches of cell infiltration (lymphocytes, plasma cells). These foci of cell infiltration were larger and more numerous in the adventitia, whilst in the media they formed smaller spots and streaks around the vasa vasorum. The presence of one or two giant cells amongst the other cells was kindly pointed out to Dr. Weber by Mr. S. G. Shattock, but they were not typical of tuberculosis, and an examination of sections specially stained for tubercle bacilli gave a negative result. The character of the cell infiltration (lymphocytes, plasma cells) and its distribution about the vasa vasorum in the media was such as might be met with in syphilitic cases. In syphilitic aortitis, according to Heller and others, the ascending aorta was especially affected, as it was in this case. Moreover, the age of the patient, the history regarding her first two children, and the absence of other obvious causes of arterial disease, lent a certain amount of support to the syphilis theory. The clinical history of the case was characterised by the rapid increase in severity of the anginal attacks. At first these troubled the patient only occasionally on exertion, then muscular exertion of any kind would invariably induce an attack. Finally, a severe attack occurred in the absence of any obvious exertion at night-time and next morning the patient was admitted with the fatal "status anginosus." Heberden and Huchard had pointed out that nocturnal attacks of angina pectoris were liable to be of long duration; and Huchard had laid stress on the influence of the bed position in increasing the blood pressure and myocardial work and thus inducing nocturnal attacks of angina pectoris. In some patients subject to angina pectoris the position of rest in bed at night time was by no means the position of maximum rest for their cardiac musculature. Sir Clifford Allbutt maintained that the only essential cause of attacks of genuine angina pectoris was aortitis but that coronary stenosis was frequently present as a fatal complication. Disease of the coronary arteries, so conspicuously present in many fatal cases, had been wrongly regarded as the real cause of the anginal attacks. On Sir Clifford Allbutt's theory, cases of recovery from true angina pectoris might be accounted for by supposing the anginal attacks to be due to a condition of aortitis unaccompanied by any considerable stenosis of the coronary arteries. Moreover, the post-mortem discovery of coronary stenosis in persons who during life had never suffered from angina pectoris might also be explained on the supposition that there had never been sufficient aortitis present to determine an anginal attack. This "aortitis" theory did, however, not account for the occurrence of coronary stenosis without typical angina pectoris, when the stenosis was due to an aortitis more or less occluding the coronary channels at their commencement. On the other hand, the occasional failure of coronary stenosis to produce angina pectoris might be explained by supposing that when the coronary stenosis was of exceedingly slow and gradual development the patient might have time to accommodate himself to his disease and might finally die from dilatation of the heart and gradual cardiac failure without ever having had an attack of angina pectoris. On the "coronary theory" it was also possible to account for occasional cases of recovery from true angina pectoris, for the swelling (due to aortitis) at the commencement of the coronary arteries might in rare cases be supposed to subside without giving rise to permanent coronary stenosis. The present case appeared to lend as much support to the "coronary theory" as to the "aortitis theory," but could certainly not be adduced as supporting any of the other theories of angina pectoris.—Dr. J. MACKENZIE said that the case was manifestly one of true angina. He noted that there was no increase in blood pressure and presumed that there had been no attempt to relieve the condition by the administration of amyl nitrite; in similar cases he had found that relief was afforded by the administration of that drug. It was no use talking about pseudo-angina pectoris because that term was a cloak for ignorance. He pointed out that the heart muscle could give rise to pain just as much as any other muscle in the body and considered that that was the cause of the pain in the condition.—Dr. F. DE HAVILLAND HALL said that in his opinion the cause of the condition in the case described was probably syphilitic.—Sir DYCE DUCKWORTH agreed that it was a case of syphilis and observed that he recognised the term "pseudo-angina" or anginoid symptoms. In his opinion the agony of angina was due to cardiac tension, much in the same way as pain was caused by the stretching of any hollow viscus, such as the bladder or stomach.—Dr. A. E. GARROD described a case in which a man was seized with intense præcordial pain and died. At the necropsy pneumococcal endocarditis was found and the right coronary artery was occluded by a portion of vegetation from one of the cusps. The explanation of the pain was that the blood-supply to the heart wall had been cut off.—Dr. PARKES WEBER, in the course of his reply, said that in future he would adopt the suggestion of trying amyl nitrite. A good plan for administering this was in a stream of oxygen directed against the mouth and nose of the patient.

Dr. J. PORTER PARKINSON and Mr. J. STROUD HOSFORD communicated a paper on a case of Cerebellar Tumour with Proptosis. They stated that the extreme rarity of proptosis occurring in cases of cerebellar tumour, or more properly in cases of tumour in the posterior fossa of the skull, was such that so far as they were aware there were only three cases recorded—namely, those of Friedberg, van Hell, and Booth. The subject of the case which they described went to the ophthalmic department at the London Temperance Hospital on May 17th, 1906, and was seen by Mr. Hosford who diagnosed a tumour of the cerebellum. The patient was admitted to the medical wards under Dr. Parkinson, where she remained for four months, but as the malady appeared to be very chronic she was removed to the Home for the Dying, Friedenheim, where she died suddenly on the next day. The patient was a girl, aged 14 years, tall and well developed. She had had pains in the back of the neck in October, 1905, which lasted on and off for two or three weeks. During April she had two convulsions and the headache ceased but she gradually began to "see things in a mist" and in the last week of the month she "saw things double" and her mother noticed that "her eyes began to grow out." In the first weeks of May the pains disappeared but the eyesight became very much worse and she constantly complained of giddiness on sitting up. She could not walk or even stand without leaning heavily on her mother's arm. The aspect of the face was expressionless, the head was thrown back, and the posterior neck muscles were firmly contracted. The right arm was decidedly weak, both in the grip of the hand and the forearm muscles, and of that she complained. There was great proptosis of each eye equal on the two sides so that much of the sclerotic was visible and the eyelids were correspondingly stretched. There was well-marked paresis of the right external rectus muscle and the centre of the cornea could never be brought to the mesial line. The left external rectus was weak but not nearly so marked as the right. There was slight but definite horizontal nystagmus which disappeared on admission but reappeared the day before death. Altitudinal motions were normal. Von Graefe's and Stellwag's signs were absent but Dalrymple's sign (widening of the palpebral fissure) was present. The pupils were equally dilated and reacted very faintly and slowly to light. The tension was normal and the media were clear. There was in each eye, but more marked in the right, the most intense choked disc and neuro-retinitis accompanied by hæmorrhages (some of which were becoming decolourised). In the macula of the right eye there was a somewhat stellate whitish mass of exudation. Vision was reduced to counting fingers. The patient became more and more apathetic and passed urine and fæces under her. She complained of pains in the right arm and was removed to Friedenheim and died on Sept. 2nd quite suddenly with asphyxial symptoms. On opening the cranium the meninges were natural but there was an escape of a great quantity of intraventricular clear fluid. The ventricles were much dilated and the cerebral cortex was flattened and thinned and the nerve sheaths were disturbed. Attached to the pia mater on the under surface of the right lobe of the cerebellum was an irregular, flattened, well-circumscribed, encapsulated, very firm pink growth of about the size of a large pigeon's egg and containing old blood clot in the centre. It pressed upon the restiform body and medulla oblongata on the right side, dipping down so much into the foramen magnum that a piece of the tumour was left behind by the pathologist during the process of removing the brain. The whole growth

appeared to have been wedged between the bony wall and the right side of the medulla. Microscopical examination showed the growth to be a fibro-psammoma. It was of interest to compare the salient points of the only other three cases in which exophthalmos coexisted with an intracranial growth which was apparently the cause of this symptom. Booth's case occurred in a girl, aged 10 years, who suffered from headache and vomiting with giddiness and general wasting. There was papillitis followed by optic atrophy. The proptosis was slight and only appeared 17 days before death. There were paresis of the left arm and paralysis of the right sixth nerve. At the necropsy a large angio-sarcoma was found in the right lobe of the cerebellum pressing on the fourth ventricle, pushing the medulla to the left and pressing on the right crus of the cerebellum. There was marked hydrocephalus. Van Hell's case was in a soldier, aged 25 years, who had suffered for a month before being seen with weakness of gait, dimness of sight, and occipital headache. There was slight exophthalmos; the pupils were dilated but reacted sluggishly. Optic neuritis was present. There were paralysis of the right side of the face and incoördination of the legs with increased reflexes. Fits with forced movements from left to right occurred from time to time. Later there appeared ptosis on the right side, sleepiness, slow pulse, and incoördination of the arms. At the necropsy there was found a growth in the superior vermiform process pressing on the left cerebellar hemisphere. Much hydrocephalus was present. Friedberg describes a case in a woman, aged 23 years, who had suffered for one and a half years from occipital headache and vomiting. She had exopthalmos, with dilated pupils and double optic neuritis. There was a glioma of the size of a chestnut attached to the under surface of the cerebellum and involving the fourth ventricle. Extreme hydrocephalus was present. In these three cases, as in the one recorded above, the exophthalmos could not be accounted for by local causes in the orbit, thrombosis of the cerebral sinuses, or thyroid disease, for there was no evidence of any of them at the necropsy. Exophthalmos must be therefore an occasional though rare symptom of a cerebellar tumour. To what condition could it be due? The cases were too few to give an opinion upon, but in all there was a tumour of the cerebellum extending towards the fourth ventricle and probably interfering with the exit of the cerebro-spinal fluid and producing hydrocephalus. This did not lessen the difficulty, as tumours in that situation were not rare and were not usually accompanied by exophthalmos.—The paper was discussed by the PRESIDENT, Sir DYCE DUCKWORTH, and Dr. PARKES WEBER, and Dr. PARKINSON replied.

Dr. S. W. CARRUTHERS read a paper on a case of Purpura Hæmorrhagica with fatal result from cerebral hæmorrhage. He said that the patient was a woman, aged 59 years, whom he had treated with calcium lactate for purpura hæmorrhagica. He was called to see her one night after she had had a slight epistaxis and found her suffering from "a splitting headache." He was summoned to her again on the same night and found her unconscious and she died a few hours later. Cerebral hæmorrhage was a rare complication of purpura, so much so that it was not even named in some text-books, and in one of the two cases specially cited by Hilton Fagge the complication was not directly fatal. The precise position of the hæmorrhage in Dr. Carruthers's case was perhaps not absolutely certain, but the symptoms suggested a cortical extravasation in the arm area, immediately becoming subdural, and extending in the subarachnoid space over the surface of the right hemisphere. As to the immediate cause of death, it seemed to have been a medullary lesion; the blood might have gravitated in the subarachnoid space till it pressed on the medulla; but the extreme suddenness of the death suggested an independent medullary extravasation, improbable as such a coincidence might seem.—The PRESIDENT said that he had a case of purpura hæmorrhagica in a patient suffering from enteric fever who had ultimately died from a relapse and a large effusion of blood in the arachnoid sac was found, together with effusion of blood in the mediastinum and in the retro-peritoneal tissue. The hæmorrhage was not necessarily into the cortex of the brain but might be diffused in the arachnoid sac. He had seen a case in a patient with pernicious anæmia where there was a cortical hæmorrhage.—Dr. PARKINSON, referring to the theory that purpura hæmorrhagica was due to some form of toxæmia or septicæmia, described two cases in which treatment by polyvalent anti-streptococcic serum had been successful.—Dr. CARRUTHERS replied and stated his opinion that the treatment by calcium lactate seemed to be the right method to have followed in his case.

## LARYNGOLOGICAL SECTION.

*Exhibition of Cases and Specimens.*

A MEETING of this section was held on March 6th, Dr. J. BARRY BALL, the President, being in the chair.

The following cases and specimens were exhibited:—

Mr. HAROLD S. BARWELL: A case of Necrosis of the Arytenoid Cartilage of unknown causation. The laryngeal appearance which showed the bared white cartilage had remained almost unchanged over a period of 16 months.

Dr. GEORGE K. GRIMMER: A case of Partial Occlusion of Both Anterior Nares by a Congenital Cutaneous Web. A good result had followed treatment, on one side with the cautery and on the other by a simple plastic operation.

Mr. H. BETHAM ROBINSON: 1. Extensive Cicatricial Changes in the Pharynx and Larynx the result of syphilitic destruction. 2. A specimen of Endothelioma from the Pharynx and Larynx which had produced during life a subglottic mass and double abductor paralysis.

Mr. A. R. TWEEDIE: One of a pair of Tonsils apparently composed of a mass of Papillomata.

Mr. E. B. WAGGETT: A case of Multiple Telangiectases in a man, aged 55 years, giving 35 years' history of epistaxis.

Mr. F. J. STEWARD: A Mucocele of the Left Frontal Sinus which had caused proptosis of the left eye for 11 years.

Mr. HUNTER F. TOD: A case of Venous Angioma of the Soft Palate in a man, aged 48 years, which involved the uvula, the anterior faucial pillars, and the base of the tongue.

Dr. STCLAIR THOMSON: A case of Leprosy in a coloured patient from the West Indies showing lesions in the pharynx, the palate, and the epiglottis.

Dr. H. J. DAVIS: A case of almost complete Obstruction of the Laft Naris in which the cause could not be seen by anterior or posterior rhinoscopy.

Dr. F. DE HAVILLAND HALL: A case of Functional Aphonia in a man, aged 24 years, which had persisted for 12 months.

Dr. J. DUNDAS GRANT: (1) A case of Lupus of the Larynx and Tonsil; and (2) a case of Extensive Epithelioma of the Epiglottis extending to the Pharyngeal Wall.

Dr. JAMES DONELAN: A case of Functional Aphonia in a woman, aged 36 years, which had persisted for ten weeks.

Dr. DAVIS: An Adenotome designed by Fein to allow a greater sweep of the instrument behind the palate.

Dr. R. H. SCANES SPICER: A case of Intrinsic Laryngeal Neoplasm in a man, aged 75 years, from whom a similar growth had been removed two years previously.

## OPHTHALMOLOGICAL SOCIETY.

*Optic Neuritis in Cerebral Tumour.*

A MEETING of this society was held on March 12th, Mr. R. MARCUS GUNN, the President, being in the chair.

The meeting resumed the discussion on Mr. Leslie J. Paton's paper on Optic Neuritis in Cerebral Tumour read at the last meeting.

Mr. PATON first modified his paper in respect of some of the percentages, subdividing them into more convenient classes. He also stated that since reading the paper he had been through the records of 60 additional cases which bore out the conclusions which he had formed on those already published.

Mr. J. HERBERT PARSONS said the paper was essentially statistical and statistics did not lend themselves well to discussion. The only part open to debate was the conclusions which Mr. Paton had formed on the figures. The records of the cases were of great value because the ophthalmoscopic appearances were observed by the President. There was a distinct apparent discrepancy between the details in this series and those previously published by others. A recent series by Uhthoft of Breslau more nearly coincided with those of Edmunds and Lawford than with Mr. Paton's. Mr. Parsons insisted on the importance of not only recording the amount of swelling of the disc but the stage at which it was observed. He was not in agreement with Mr Paton's explanation of subcortical and pontine tumours in regard to vascularity. He did not regard the star at the

macula as a mere result of the violence of the neuritis; there were cases equally violent in which no star was present. The latter he had seen more commonly in children than in adults. He proposed that suggestions as to the cause of optic neuritis should be omitted from the discussion as it did not really arise out of the paper.

Sir VICTOR HORSLEY, speaking as a visitor who had not heard the paper but had an opportunity of looking it through, said that the contribution was really founded on records of his own cases, and yet he was diametrically opposed to one of its most important conclusions. He protested against Mr. Paton's conclusion going forth under the ægis of that great society as the one justified by the records of the Queen-square cases. He (Sir Victor Horsley) had taught for years, and had supported it by operative proof, that one was justified in regarding the homolaterality of the lesion as a point of clinical value. Every case must be dealt with on its merits and he thought the difference of opinion between Mr. Paton and himself was due to the treachery of clinical statistics. He had long taught that it was essential to study the neuritis by the character of the changes in the disc, not the mere swelling. It was necessary to know whether it was an exudate and indeed the minutest details of it. He had often seen a macular fan entirely disappear after the removal of a cerebral tumour. One point which was learned from the Queen-square cases 20 years ago but which did not find a place in the paper was the question of pressure. Free opening of the dura mater would cause subsidence of the neuritis. The records contained very much information on that point and he hoped that Mr. Paton would be able to include it in his paper.

Sir WILLIAM GOWERS sent a communication supporting some of Sir Victor Horsley's criticisms.

Dr. C. E. BEEVOR agreed with Sir Victor Horsley's remarks concerning the age of the neuritis. In 50 cases of cerebral tumour of all kinds which he investigated for his Lettsomian lectures last year the optic neuritis was most severe on the same side as the tumour.

Dr. E. FARQUHAR BUZZARD complained that Sir Victor Horsley had not brought forward figures to support his view on homolaterality, valuable though his opinion was. The number or proportion of cases in which the neuritis occurred on the same side was not great enough to make it diagnostically important. Placing too much stress on the doctrine might lead to serious error.

The PRESIDENT thought that the truth in the matter lay between the views of Mr. Paton and Sir Victor Horsley, in the way mentioned by Dr. Buzzard.

Mr. PATON replied, quoting cases from his paper in confirmation of his previous contention.

Dr THOMSON HENDERSON (Nottingham) gave a lantern demonstration on the Venous Connexions of Schlemm's Canal.

Cases were shown by Mr. E. E. HENDERSON, Mr. G. H. GOLDSMITH, Mr. ARNOLD LAWSON, Dr. A. H. THOMPSON, and Mr. J. F. CUNNINGHAM.

## UNITED SERVICES MEDICAL SOCIETY.

### *Physiological Principles of Physical Training.*

A MEETING of this society was held on Feb. 13th in the library of the Royal Army Medical College, Sir HERBERT ELLIS, K.C.B., Director-General of the Medical Department of the Royal Navy, being in the chair.

Dr. M. S. PEMBREY read a paper on Physiological Principles of Physical Training. He put forward the following propositions in order to facilitate discussion. 1. The true object of physical training should be the increase in the recruit's strength, agility, and capacity for muscular work. The power of endurance was far more important than a conventional military figure or the acquirement of acrobatic tricks. 2. The principle of progression from easy exercises of short duration to more difficult exercises of longer duration was essential, especially for recruits. 3. Unusual movements or postures produced an amount of fatigue and expenditure of energy disproportionate to the work done. 4. The uniform development of all the muscles of the body was unnecessary and uneconomical. The soldier should specialise according to his work. Marching and digging were exercises in which infantry soldiers required progressive training. 5. A "strictly military position" did not "assist greatly in the free and full action of the heart and lungs and the consequent development of the whole body." 6. The position of attention was an abnormal position, which could be defended only as a discipline. 7. In marching the natural movements of the arms and the swing of the body should not be suppressed. 8. So-called "breathing exercises" were based upon an erroneous interpretation of the physiology of respiration. In practice they might produce emphysema and increase the risk of infectious diseases. 9. The natural method to improve the "wind" was progressive running. A good "wind" was something more than a big chest; it was the capacity of the heart and lungs to accommodate themselves to the demands made upon them by muscular exercise. 10. The idea that artificial expansion of the chest gave freedom of action to the organs within was erroneous and pernicious. 11. Exercises which produced prolonged fixation of the chest during muscular work were unsuitable for recruits. 12. Training involved the accommodation of the recruit to an outdoor life. Work in the open air "hardened" a man, diminished his liability to "colds," consumption, and other infectious diseases, and improved his appetite and nutrition. 13. Games had a more beneficial effect than irksome exercises. 14. Obstacle races, boxing, wrestling, swimming, bayonet fighting, and fencing should be encouraged. 15. Exercises with the horizontal bar, parallel bars, pairs of rings, Indian clubs, and dumb-bells should be discouraged. 16. Span-bending, abdominal and dorsal exercises were not free from danger. 17. The official tests of proficiency should be those which brought out a recruit's capacity to coördinate his muscles, to accommodate himself to the demands of muscular work, and to bear fatiguing exercise without undue distress. 18. Military competitions and display should consist of exercises of military value.

Commander H. D. R. WATSON, R.N., gave a short historical *résumé* of the gymnastic training of the navy in the past 13 years, and then proceeded to the discussion of the various points put forward by Dr. Pembrey. With most of these he was in agreement but he thought that in the navy at least physical exercises should be continued throughout a man's service as being the most healthy and convenient form of exercise for keeping the men in health. He laid especial stress on the importance of the training being progressive.

Colonel S. P. ROLT, inspector of gymnasia, described the progress of physical training in the army in the past few years. He divided training into educational gymnastics and recreational gymnastics. He did not agree with Dr. Pembrey, that the latter, including as they did boxing, fencing, &c., were neglected in the army. In conclusion, he thought that at least two years must elapse before the full results of the present system of training could be fairly judged.

Dr. J. S. HALDANE condemned so-called breathing exercises and pointed out that the rhythm of respiration was regulated by the percentages of carbon dioxide present in the blood, which was kept at a constant level of 5·6 per cent., a level which could not be altered by any artificial exertion.

Dr. PEMBREY in summing up referred to the advisability of the training of the soldier being placed under the direct authority of the medical department. He thought too much importance was given to personal experience. The fact of a man being a great athlete was no proof that he was at all acquainted with the great physiological principles underlying all physical culture. He deprecated a slavish following of any foreign nation such as the Swedes, since the British nation was renowned for its physical efficiency.

### *Hospital Ships.*

A MEETING was held at the Royal Army Medical College on March 12th, Sir HERBERT ELLIS, the President, being in the chair.

Fleet-Surgeon E. B. PICKTHORN, R.N., read a paper on Hospital Ships. He first referred to the early uses to which such ships had been put and quoted extracts from various reports, pointing out any defects that in the present day might be remedied. He then spoke of the position of a hospital ship in regard to the Geneva Convention and her probable use to a fleet in action, indicating the necessity for keeping well out of the way ready to intervene immediately after the cessation of the action. He recognised the great utility of adapted commerce ships and thought that our requirements in war time would still have to be largely dependent on such, but pointed out that there was a general consensus of opinion in favour of providing a specially constructed ship for permanent hospital use. The uses to which a hospital ship might be put, he thought, were: 1. A stationary hospital ship which would provide a base hospital until other accommodation was provided; the advantages

gained were a certain dependable water-supply and easy disposal of sewage. 2. A ship for the transport of sick and wounded, such as had already undergone treatment in base hospitals or stationary hospital ships. 3. An ambulance ship that would attend upon fleets in action for the conveyance of wounded to home ports. 4. A ship to accompany a fleet and in which medical and surgical treatment could be undertaken for as long a period as necessary. He recommended the advisability of entering into an arrangement with a shipping line dealing with emigrant service with a view to construct emigrant ships in the first place for subsequent conversion into ships for transport of sick and wounded or ambulance ships. The other classes of hospital ships, he thought, should be specially constructed. He then dealt with the details which required attention when special construction was contemplated and concluded by saying that before this was undertaken the question to settle was, Can sufficient employment be found in peace time for a hospital ship to justify this outlay?

A discussion followed which turned principally on the class of ship that it was desirable to charter; the internal arrangements of the specially constructed ship; the size and speed of the different classes of ships; the method of transporting the sick and wounded from the fighting ship to the hospital ship, and the financial difficulty as to provision of specially constructed ships in peace. The balance of opinion was in favour of some form of passenger ship being chartered, of decks being of wood rather than of iron covered by linoleum, and of the engines and boilers being placed amidships in the specially constructed vessel. There was general agreement as to the necessity of the transport of sick and wounded being undertaken by the boats and staff of the hospital ship and of the desirability of enlisting the force of public opinion to overcome financial difficulties.—Fleet-Surgeon D. J. P. MCNABB, Fleet-Surgeon W. A. WHITELEGGE, Fleet-Surgeon P. W. BASSETT-SMITH, Fleet-Surgeon R. MILLER, Fleet-Surgeon O. W. ANDREWS, Surgeon G. ROSS, Mr. G. H. MAKINS, Deputy Inspector-General A. W. MAY, and the PRESIDENT took part in the discussion.

## LIVERPOOL MEDICAL INSTITUTION.

*The Milk-supply of the Liverpool Hospitals.—Ophthalmia Neonatorum.—Exophthalmic Goitre.*

A MEETING of this society was held on March 12th, Mr. THOMAS H. BICKERTON, the President, being in the chair. He opened the proceedings by referring feelingly to the double loss which the institution had sustained in the recent deaths of Mr. Reginald Harrison and Mr. E. R. Bickersteth, of whose careers he gave a short summary.

Dr. H. H. CLARKE moved the following proposition:—

That a committee of five members with power to add to their number be appointed to consider whether the Liverpool voluntary hospitals should be advised to take action to insure the greater purity of their milk-supply, with special reference to tubercular infection, and to report thereon to the Medical Institution.

He pointed out the extent of the danger, about 5 per cent. of all milk sold in Liverpool being tuberculous. That danger could be removed by sterilising all milk used. The method, however, was unsatisfactory. The milk of a diseased cow should not be used for food if it could be avoided. The efforts of the public health authorities had resulted in a marked improvement in the milk produced in the Liverpool area, but their powers over outside dairies which supplied most of the hospitals were inadequate and in consequence no improvement had taken place in the quality of the milk from the country during the last ten years. He pointed out that there was no adequate body of public opinion to support the authorities against the strong opposition which drastic measures were sure to arouse, and he considered that it was the duty of the medical profession of Liverpool to give a clear and authoritative statement of the present state of their knowledge of this subject and to show by a practical demonstration how this danger could be avoided. In this way public opinion could be educated and the efforts of the authorities rendered easier.—The motion was seconded by Dr. C. A. HILL, supported by Dr. N. P. MARSH and Dr. J. R. LOGAN, and carried.—The following gentlemen were selected to serve on the committee: Mr. T. H. Bickerton (President), Sir Rubert W. Boyce, Dr. H. H. Clarke, Dr. N. P. Marsh, Dr. E. E. Glynn, Dr. E. W. Hope, Dr. C. A. Hill, Dr. W. B. Warrington, and Dr. R. J. M. Buchanan.

Dr. A. NIMMO WALKER read a note on Ophthalmia Neonatorum based upon an experiment in its treatment which he believed to be new, at any rate in Great Britain. A small ward had been allotted in St. Paul's Hospital, and with the help of the city health department, acting under the Notification of Births Act and the Registration of Midwives Act, infant and mother were admitted at the beginning of the disease. He hoped to publish fuller details and particulars later.—The subject was further discussed by the PRESIDENT, Dr. A. STOOKES, Dr. LOGAN, Dr. K. A. GROSSMANN, Mr. E. M. STOCKDALE, Dr. R. E. HARCOURT, and Dr. E. STEVENSON.—Dr. WALKER replied.

A discussion on the Pathology and Treatment of Exophthalmic Goitre was opened by Dr. W. B. WARRINGTON. He briefly reviewed the views held as to the functions of the thyroid and parathyroid bodies. He stated the necessity for greater knowledge of the history of the whole course of the disease and said that in his opinion it was a very serious condition, only rarely terminating in real and permanent recovery. He described the principles underlying the serum and general treatment of the disease and alluded to the remarkable successes obtained on the continent and America from operative procedure.—Dr. A. GORDON GULLAN discussed the etiology of Graves's disease and showed that it was more prevalent in women, being rare before puberty and after the menopause, and mentioned instances of family history in this disease. He then dealt with the pathology of the disease and claimed that it was due to excessive activity of the thyroid gland—thyroidism—as proved by experiments on animals and overdosage with thyroid extract in man. He also discussed the rationale of the action of antithyroidin (Moebius), rodagen, and thyroidectin. He quoted several cases which he had treated during the last few years with these substances and in most instances the results were most satisfactory and in many cases quite definite. In conclusion, he urged a more extended use of antithyroid treatment rather than operative treatment and advocated that larger doses of the anti-thyroid substance should be used in some cases.—Dr. T. R. GLYNN pointed out that Graves's disease was hereditary; he had met with an instance where two sisters and the only daughter of one of them suffered from this affection. In the case of the latter the typical symptoms appeared at the age of six. The majority of these cases improved under rest and treatment in hospital and occasionally recovered perfectly. The mortality of thyroidectomy had diminished greatly in late years but thyroidectomy and other operative measures were only moderately successful. In a recent paper by Dr. Garre of Bonn he stated that he had operated on 35 cases of Graves's disease chiefly by removal of the more hypertrophied part of the gland. Absolute cure had followed in 16 per cent. only, amelioration in 85 per cent., and no improvement in 15 per cent.; death had occurred in 12 per cent. He also referred to the fact that in fatal cases the thymus was enlarged in about 80 per cent., indicating that there was some relation between this gland and the thyroid.—Mr. C. THURSTAN HOLLAND discussed the x ray treatment. He said that 20 cases had been treated in private and at the Royal Infirmary during the last five years but some of these only attended a few times. In most of the cases, following immediately on the first exposure, a noticeable drop in the pulse-rate occurred and muscular tremors and general nervous symptoms abated. Several mild cases after a course of this treatment were symptomatically cured. The x ray treatment seemed to be of undoubted value and in bad cases might be valuable as a preliminary to operative interference. In making the exposure the skin should be protected by two or three layers of thick boiler felt.—Dr. R. J. M. BUCHANAN, while agreeing that the symptoms of Graves's disease were due to an increased or perverted activity of the thyroid gland, did not consider that much light had been thrown on the cause of this. He pointed out that as the other organs of different people varied in the range and character of their activity so it is with the thyroid, and that the condition is a congenital anomaly in certain individuals. During his investigations into the clinical side of the disease he had been led to conclude that the condition is one largely governed by heredity. He considered that people in whom Graves's disease showed itself in later life were of a separate and distinctive class and who he believed had the affection in a certain degree from early childhood. A condition which might be regarded as

simple goitre if closely watched might be found to develop some sign of the graver form at some period of life. He showed lantern slide photographs of families of the type to which he referred and in which some members had simple goitre, while others in the same family had the symptoms of Graves's disease. In one family the father had a large thyroid and the condition had been transmitted to his three daughters by two separate mothers; two of the daughters had large quiescent thyroids and the third a large thyroid with signs of Graves's disease. In one case he had watched the development of the disease in a lady over a period of 18 years and also in her daughter from early childhood for the same period of time. He considered the thyroid functionated intermittently, as all other organs of the body must do, and in this way he accounted for the exacerbations which are so common. Dr. Buchanan drew attention to a clinical sign which he had found present in cases of Graves's disease and which he had not seen described—that before moving the eyes from one fixed object to another blinking of the eyelids always took place.—The PRESIDENT, Dr. J. H. ABRAM, Mr. H. E. JOHNSON, Mr. F. T. PAUL, and Mr. DAMER HARRISSON also took part in the discussion.

## EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

*Diverticula of the Alimentary Tract.—Sanatoriums for Curable Cases of Pulmonary Tuberculosis among the Poorer Classes.—Inoculations of Bacterial Suspensions.*

A MEETING of this society was held on March 4th, Dr. JAMES RITCHIE, the President, being in the chair.

Mr. H. ALEXIS THOMSON read a paper on Diverticula of the Alimentary Tract, with particular reference to those met with in the Ileum resulting from an Accessory Pancreas and from Tuberculosis. He said that diverticula were met with throughout the whole length of the alimentary tract but they occurred with greater frequency in certain parts than in others. They were comparatively common in the pharynx, the gullet, the lower part of the ileum, and the sigmoid colon, but comparatively rare in the stomach, the duodenum, the jejunum, the vermiform appendix, and the rectum, while their occurrence had not been noted in the cæcum or ascending colon. Two types were met with: the congenital diverticulum, in which the protrusion depended on the persistence of fœtal structures such as the visceral arches or the vitelline duct, and the acquired diverticulum, in which the chief etiological factor was any condition that impaired the integrity of the muscular coat of the digestive tube. In the study of diverticula of the lower ileum it was desirable to discriminate between the congenital form, which was associated with the name of Meckel, and the acquired varieties. Meckel's diverticulum, when of the finger-of-a-glove type lying free in the peritoneal cavity, could usually be distinguished by its frequently possessing a mesentery, by its wall containing all the coats represented in the normal ileum, and by the absence of any lesion in its walls capable of producing a pouching such as was so constantly found in acquired diverticula; further, when a Meckel's diverticulum was the seat of disease the latter was secondary and not the original cause of the protrusion. It was formerly believed that a solitary diverticulum springing from the lower ileum opposite the mesenteric attachment was necessarily of the Meckel variety, but it was now known that an acquired diverticulum might present these characters. Mr. Thomson had met with two acquired diverticula in the lower ileum, each of them being solitary and each due to a localised disease in the wall of the intestine. The first presented itself in a woman, aged 65 years, who had suffered from recurrent colicky pains in the right lower abdomen and threatenings of obstruction. It was removed with the crushing forceps used in removing the appendix; the patient made a good recovery and had remained free from symptoms. Examination of the diverticulum showed a number of foci of tuberculosis scattered in the different coats of the bowel and at one point these had destroyed and replaced the circular layer of muscle. The second diverticulum was met with in a stout man, aged 33 years, who two years before had had an attack which was regarded by his medical attendant as appendicitis. The present attack was of sudden onset, was attended with shivering, abdominal pain, vomiting, and subsequent elevation of the temperature to 103° F. The abdomen was opened 34 hours after the first onset of symptoms. The appendix did not show any signs of recent inflammation; the lower coils of the ileum were pulled out and about 18 inches from the ileo-cæcal valve a diverticulum was found of the finger-of-a-glove type, presenting a bulbous enlargement at its extremity. It was removed in the usual way. Three years had elapsed since this operation and there had been no return of abdominal symptoms. The bulbous enlargement was found to consist of a cortex of fat invested with a thin serous membrane, and of a central mass made up of two separate portions of an accessory pancreas. It was inferred that the accessory pancreas was the cause of the diverticulum, that the clinical features were to be ascribed to the escape of altered pancreatic secretion into the abdominal cavity, and that the accessory pancreas showed transition stages from a tubular adenoma into an alveolar cancer. Mr. Thomson was not aware of these changes having been observed before in an accessory pancreas, but he thought them of great interest as throwing light on the anatomical beginnings of cancer and as affording an illustration of the doctrine of the origin of tumour growths from embryonic residues propounded by Cohnheim.—Dr. DAVID WATERSTON, Mr. A. A. SCOT SKIRVING, Professor H. HARVEY LITTLEJOHN, and the PRESIDENT discussed the paper.

Dr. A. WALKER read a paper on the Provision of Sanatoriums for the Treatment of Curable Cases of Pulmonary Tuberculosis among the Poorer Classes. He showed, from his experience in attempting to promote the establishment of a municipal sanatorium in Aberdeen, that the financial difficulty was by far the greatest obstacle in the way of obtaining such an institution. The attempt was, however, frustrated from an unexpected quarter—namely, by the circular issued in March, 1906, by the Scottish Local Government Board which threw the onus of dealing with pulmonary tuberculosis entirely on the local authorities. The disease had two distinct stages—one in which it was non-infectious and one in which it was infectious. Patients suffering from it ought therefore not to be placed entirely under the legislative and financial control of a government department. In the early and curative stage it was better that they should be under voluntary agencies, while the advanced cases were properly within the purview of the public health authorities. He objected to the local authorities applying to pulmonary tuberculosis the provisions of Public Health Acts which were out of character with a type of disease utterly different from any other infectious ailment. Reference was subsequently made to the inadequate provision of sanatoriums for the poor and to the expensive character of many of the present institutions, both in the capital outlay and in the cost of maintenance.

Dr. L. C. PEEL RITCHIE communicated observations on the Use of Inoculations of Bacterial Suspensions. He said that immunity against bacteria might be of two kinds—namely, antimicrobial or antitoxic. The former would be alone dealt with and for its production the injection of bacterial bodies with nothing else of a toxic nature was desired. In practice the bacteria were first killed, usually by heat, and then injected in suspension in a neutral fluid. It was important to realise that a dose of a poison was introduced into the patient's system and not in any sense a protective or an anti-substance, for they had to rely on the patient's immunising reaction to produce this for himself. The real object of inoculation as advocated by Sir A. E. Wright was to increase the protective substances in the blood of the patient and this must be controlled by observing his phagocytic index. After a therapeutic inoculation of a bacterial suspension there was a rise in the index at the end of 24 hours in healthy individuals. In an infected person this rise, or "positive phase," was preceded by a temporary fall, or "negative phase." It was not so generally known that if the index were observed at short intervals within the first 24 hours a very marked rise occurred, usually attaining its climax in about six hours. This was common to both healthy and diseased subjects and showed that the latter could as rapidly elaborate immunising substances as the healthy. Wright insisted on the importance of not giving an inoculation during the negative phase, or period of presumably lessened resistance, arguing that the phagocytic index would fall in the same way as he had observed the agglutinative power to do. Dr. Ritchie's observations did not bear this out. Phagocytic index estimations had, in his opinion, proved of the greatest value in showing how small a dose of a suspension was necessary to produce a marked immunising effect, and in showing the persistence of these

effects as well as the fallacy of frequent inoculation, for it was impossible to produce a progressively cumulative and lasting positive phase in a patient's blood. Dr. Ritchie had found, on the other hand, that with a suitable dose, if each successive one were given only as the effects of the previous one were passing off, the treatment might be continued for months or years without incurring the risk of a prolonged negative phase. In this procedure the index was maintained very steadily above the normal. If this could be secured they would probably succeed in preventing extension of disease in chronic cases which demanded long-continued treatment. He had not found it necessary to exceed a dose of $\frac{1}{10,000}$th of a milligramme with any bacterium with which he had worked and the results had been as satisfactory as with doses a hundred times larger such as were commonly given. Subcultures should be avoided. A simple scheme for treating a chronic condition in an adult would be to give doses of $\frac{1}{10,000}$th of a milligramme at intervals of two, then three, then four weeks, continuing at that rate for six months. Later, it would probably not be necessary to inoculate oftener than once in six weeks and finally, perhaps, in two months. In chronic affections, especially tubercle, inoculation should be practised long after recovery is assumed to prevent relapses. Staphylococcal infections, so common in surgical work, offered a large field for treatment. Abscess formation might in its early stages be prevented; if already developed its healing was greatly hastened. Boils could be aborted. If a slough had formed it usually separated in from two to four days after inoculation and healing followed rapidly. Relief of pain was prompt. Recurrent crops of boils could be entirely obviated and treatment should be prolonged after apparent recovery. In streptococcal infections he had seen more strikingly good results than in any others. The diseases induced by these organisms might be highly acute or intractably chronic, but all were amenable to treatment. In the case of wounds a dose might be given consisting of $\frac{1}{40,000}$th or $\frac{1}{10,000}$th of a milligramme each of staphylococcus aureus and streptococcus pyogenes and also bacillus coli, if in the region of a mucous tract. Most eventualities would as a rule be covered as other infections were, as a rule, secondary. In all operation cases he had given such with satisfactory results. In accident wounds also suppuration could be controlled and even entirely prevented. This method of treatment had proved very valuable in aiding the conservative treatment of lacerated wounds, in primary skin grafting, and generally in all cases where complete wound disinfection was difficult to insure. If this method were employed the use of chemical antiseptics in the tissues was contra-indicated as they inhibited phagocytosis which was the means of final disinfection which was relied upon after the necessary mechanical cleansing.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

### SECTION OF SURGERY.

*Gall-stones.—Exophthalmic Goitre.*

A MEETING of this section was held on Feb. 28th, Mr. SETON S. PRINGLE being in the chair.

Mr. KENNEDY read a paper on Gall-stones, laying stress on the fact that the only available treatment was by operation. He mentioned three cases of obstruction of the common bile duct upon which he had successfully operated; in one of them the obstruction was present for three and a half years and was caused by a single calculus weighing 50 grains. In another case there were six calculi removed from the common bile duct; this patient had had perforation of the gall-bladder and peritonitis about six months previously for which Mr. Kennedy had also operated. The third patient was an old woman who had apparently obstruction to the common bile duct produced by chronic inflammatory trouble in the pancreas. Mr. Kennedy also gave a short account of two cases in which he had performed cholecystectomy. In both cases the cystic duct was obstructed by a calculus, and numbers of calculi were present in the gall-bladder.—Mr. A. J. BLAYNEY said that he shared Mr. Kennedy's opinion that it was no more safe to leave a gall-stone in the gall-bladder than to leave a suppurating appendix inside the abdomen. Recently he had removed gall-bladders more often than formerly, as he had had experience of a recurrence of gall-stones in some gall-bladders which he had opened and drained.

Mr. WILLIAM TAYLOR read the notes of a case of Exophthalmic Goitre treated by removal of the right lateral lobe and isthmus of the thyroid gland. The patient was a woman, aged 24 years, who had been suffering from the disease for six years. Both eyes were very prominent, the heart's action was rapid, and palpitations were very distressing on the slightest exertion; muscular tremors were well marked, and her nervousness was so bad that she could scarcely speak intelligibly. The thyroid gland was enlarged, especially on the right side. After admission into the Meath Hospital in Dublin, under Mr. Taylor's care, she was kept quiet in bed for three weeks prior to operation. During that time her pulse-rate varied from 120 to 136. Under chloroform anæsthesia preceded by a hypodermic injection of $\frac{1}{4}$th of a grain of morphine and $\frac{1}{100}$th of a grain of atropine the right lobe and isthmus of the thyroid gland were removed. The operation presented no unusual feature of interest. There was very little blood lost and the operation was well borne. The pulse-rate during the subsequent 24 hours varied from 120 to 140, and the temperature rose to 101·4° F. On the second day the temperature fell to normal and the pulse-rate averaged 120. The drainage-tube was removed on the third day and the suture on the sixth day. The pulse gradually fell in frequency till the tenth day, when the rate was 78. On examination 20 months after the operation the patient's condition was in every respect quite satisfactory. Her nervousness had disappeared, there were no muscular tremors, she never had any attacks of palpitation, her pulse-rate averaged 80, and the exophthalmos, though still present, was much less marked. She expressed herself as quite well in every respect, save for the slight prominence of her eyes, and she was working daily as a dressmaker. Mr. Taylor said that when operative treatment was undertaken in an early stage, before the heart became disorganised and degenerated, the mortality attending it was but little in excess of that of partial thyroidectomy for simple colloid goitre. An entire lobe and the isthmus should be removed.

Mr. K. E. L. G. GUNN read a note on the Surgical Treatment of Exophthalmic Goitre, dealing mainly with the pathology of the disease. He said that in his opinion the parathyroids were primarily affected and that the enlargement of the thyroid followed. The microscopic appearances of the gland in the early stages of the disease were not distinguishable from those of simple goitre, whereas in the later stage of the disease the appearance of the exophthalmic goitre under the microscope was unmistakeable. Mr. Gunn then briefly related three cases of Graves's disease in which partial thyroidectomies had been done. Two of these had been most successful, but the third died from subacute thyroidism ten days after the operation.—Mr. KENNEDY said that he attributed considerable importance to the position of the patient during the operation. He believed that many deaths had occurred through interference with the recurrent laryngeal nerve. The danger of thyroidism was greater the more gland was left. To get a good result it was necessary to remove practically the whole of the gland. The central lobe would be quite sufficient for the needs of the patient afterwards. If the surgeon got the case before pathological changes had occurred in other organs the cure of the disease could be practically assured.

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BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 11th, Dr. H. Waldo, the President, being in the chair.—Dr. Carey F. Coombs showed specimens from the Myocardium in Acute Rheumatism. He drew attention to the nodules occurring in the neighbourhood of arterioles composed of aggregations of large spindle-shaped polynuclear cells and pointed out that they were chiefly met with in the muscle of the left ventricle near the apex. He was inclined to regard them as the result of a fibroblastic reaction (peculiar perhaps) to the rheumatic virus.—Dr. W. S. V. Stock read notes of a case of Carcinoma of the Breast in which metastasis occurred after an interval of 24 years. The breast had been amputated 24 years previously to May, 1907, when the patient noticed a lump in the right iliac fossa which Sir Thomas Smith (who had performed the first operation) and Mr. A. A. Bowlby diagnosed as a

growth in the right ovary but regarded as inoperable; the growth increased rapidly and nodules appeared above the clavicle, on the sternum, and ultimately in many other situations either in glands or subcutaneous tissues. Some glands were removed from the groin, which under the miscroscope showed clear evidences of being carcinoma secondary to a primary mammary growth. Ultimately the patient died (eight months after first noticing the mass in the pelvis) with symptoms of cerebral metastasis. The reasons for the long period of quiescence and the possible channels of transmission were considered at some length.—Mr. C. B. Goulden read a paper on Lacrymal Obstruction. After briefly reviewing the anatomy and physiology of the lacrymal sac and nasal duct he went on to deal with the causes of obstruction, most of which were due primarily to diseases in the nasal mucosa or to caries of the nasal and lacrymal bones from tuberculosis or syphilis. The treatment advocated for epiphora without mucocele consisted in bringing the puncta into correct apposition with the globe either by slitting the canaliculus or better by producing with the actual cautery a scar between the inner canthus and punctum which by contraction would restore the latter to its true position; for mucocele he advised treatment of the nose if required and syringing of the sac, but unless this proved successful in six weeks excision of the sac must be resorted to. For dacryocystitis the sac should invariably be excised; the use of probes and styles he utterly condemned.—The paper was discussed with interest.—Dr. A. Fells read notes of a case of Urobilinuria associated with Polycythæmia occurring in a woman, aged 37 years, who had been long resident in India and had suffered from sunstroke and many attacks of fever. In 1901 she returned to England and first began to complain of shivering fits and attacks of pain in the left side which radiated down the leg. In 1906 she became liable to attacks of fainting, with extreme irritability and restlessness; she had then intermittent pyuria with pyrexia. The right kidney was explored and being found moveable but otherwise healthy was fixed by suturing. Subsequently headache, neuralgia, insomnia, constipation, and profound muscular weakness successively developed and the urine became of a clear port-wine colour; the blood count showed an increase of erythrocytes (6,500,000) without leucocytosis. Eventually the patient died with increasing myasthenia and paralysis extending gradually from the extremities to the respiratory centres. The urine had been examined and was reported to contain "urobilin." The case was probably one of autointoxication from the alimentary tract. The patient had taken sulphonal but not to excess.—Dr. J. O. Symes considered that a case showing such persistent and long-continued urobilinuria was probably unique; he agreed with Dr. Fells's suggestion of toxæmia as the explanation.—Dr. F. H. Edgeworth said he felt no doubt that the specimen of urine shown contained hæmatoporphyrin and that the case was one of sulphonal poisoning ending, as such cases frequently did, in peripheral neuritis.—The President detailed a case which he had treated of a man who had died from chronic sulphonal poisoning with hæmatoporphyrinuria. The similarity in the course of the disease to that of Dr. Fells's case was striking, and he could not help thinking that probably hæmatoporphyrin was present in this instance also.—A small subcommittee was asked to examine the urine and to report on its composition to the society at some later date.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on March 4th, Dr. A. T. Wilkinson, the President, being in the chair.—A discussion took place on the question of Gastro-jejunostomy.—Dr. F. Craven Moore having dealt with the medical aspect, Mr. E. Stanmore Bishop said that gastro-enterostomy, which was first performed by Woelfler in 1881 as an alternative for pylorectomy or as an adjunct to partial gastrectomy where the amount of tissue removed rendered reunion of the stomach and duodenum specially hazardous, had lately been far more frequently employed as a remedy for gastric or duodenal ulceration. In such cases its good effects appeared to be due, first, to its action as a drain, at least at first, so producing rest for the area implicated; secondly, because such rest permitted the coating over by mucus of the ulcerated patch, and consequently of its protection from irritating materials, this protection being favoured by the folds into which the gastric walls fall; thirdly, to the avoidance of alternate stretching and contraction of the gastric walls and the elimination of pyloric spasm; and fourthly, to the decreased acidity of the stomach contents (reference was made to the observations of Wertheimer and Pawlow upon the results of acid in the jejunum and to Paterson's estimate of 5 per cent. regurgitation of intestinal contents). The reasons for believing that drainage was the primary result were based upon observations made by Mr. Bishop himself and Dr. A. E. Barclay of the passage of food after operation at successive periods with the aid of radioscopy; later the opening appeared to act more as a safety valve. Three illustrative cases taken from many of its effect in gastric and duodenal ulceration were detailed. Mr. Bishop referred to several visits paid to the clinics of noted English abdominal surgeons and to the lessons learnt from them; he also showed some appliances for assistance in the work. A short review of the stages through which methods of intestinal union had passed was followed by a description of the operation as at present performed. The question of "vicious circle" vomiting was discussed and the reasons were given for believing that this had ceased to be a serious factor in gastro-enterostomy. Finally he referred to the small and decreasing mortality and to the strikingly good symptomatic results obtainable by this operation.—Dr. Barclay read a paper on X Ray Examination of the Stomach, making special reference to gastro-jejunostomy. He stated that he always used the upright position in his examinations, which were entirely carried out by means of tracings made on the screen from shadows cast by a meal of bismuth carbonate with porridge (four ounces to one pint). The average healthy stomach in normal circumstances varied in shape. Solid foods did not mix and he found in one case evidence of "churning," though fluids taken after a meal passed all round the walls of the organ right down to the pylorus in a few seconds. This he demonstrated after the meeting. He agreed with Dr. Leven and Dr. Barrett that the healthy stomach maintained a level for its contents and that increased capacity was obtained by lateral expansion and not by filling from below upwards. If this latter was noted there was atony of the walls, but this need give rise to no symptoms unless there was inefficient peristaltic action. Motor efficiency could be tested by watching the passage of bismuth porridge out of the stomach and the presence of free HCl demonstrated by observations with capsules of bismuth made with goldbeaters' skin which should be digested and the bismuth dispersed in two and a half hours. Carcinoma sometimes led to irregularities of outline that helped in the diagnosis. He had examined some cases in which Mr. Bishop had performed gastro-jejunostomy and had found that the stomach was utilised in them all although peristaltic action was directed towards the pylorus. In only one case did food pass through this orifice. Shortly after operation food-stuffs passed through much more rapidly than later—say three months—when their passage was more or less normal, the stomach moreover retaining proteins and fat longer than carbohydrates.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 21st, Dr. J. Walker Downie, the President, being in the chair.—Dr. J. Crawford Renton showed, or read notes on, a number of surgical cases, among which were: 1. Excisions of the Elbow-joint for injury or disease. The movements in all cases were very satisfactory, even in one severe case where 5½ inches of bone had been removed. 2. Two cases of Rupture of the Spleen. One recovered. 3. Four cases of Intussusception, with three recoveries. 4. Notes on 12 cases of Gastro-enterostomy done by Mayo's method. There was no trouble with vomiting.—Dr. A. McLennan reported a case of Tumour of an Accessory Thyroid and also read a paper upon the Function of the Thymus Gland with special reference to the results of thymusectomy. The result of the investigation was as follows:—1. The recovery of the animals was rapid. The animals operated upon showed more vigour and had larger appetites; their weights increased more rapidly than the controls, though the latter were selected to begin with, because of their larger size. 2. Slides were put on the screen to show the changes in the epiphyseal cartilages. It was found that the epiphyseal lines were thickened in the thymusless; there were a greater number of cells between cartilage and bone; there was evidence of increased rate of growth. 3. The thyroid was reduced in size, was paler, and on section there was seen reduction in the size of the gland spaces; the connective-tissue cells were more numerous in the thymusless. 4. After thyroidectomy the thymus was found to atrophy in some cases completely. 5. Three cases of thymusectomy in children were mentioned

in connexion with the relationship of the thymus to the status lymphaticus. The connexion with marasmus, rickets, sudden death, &c., was shortly discussed.—Dr. William MacLennan reported an unusual case of Mediastinal Tumour. The case was that of a young woman, aged 28 years, who was sent into a surgical ward of the Western Infirmary "suffering from an abscess at the root of the neck." The case was transferred to a medical ward after a diagnosis of a tumour of the anterior mediastinum had been made. When a girl, aged 15 years, she had had removed from the front of her neck a small tumour, which from the position of the scar was clearly connected with, or close to, the thyroid gland. Unfortunately, no histological examination of this growth was made, but its occurrence was a very interesting antecedent and probably had more than a casual relation to the present tumour. The differential diagnosis of the three likely conditions—abscess, aneurysm, and tumour—was made and the progress of the case was related. The disease ran a rapid course, the entire illness, from the earliest complaint till death, only occupying a period of ten weeks. The points of interest in this case were:—1. Was the tumour removed at an earlier date an aberrant or accessory thyroid? It was well known that these growths were prone to take on a malignant action. Might the adeno-carcinoma, of which this tumour was partially composed, have taken origin in such an accessory thyroid or in some portion of embryonic tissue imbedded in, or lying near to, the tissue of the thyroid? 2. Rare at all times, such primary tumours were specially so in the thyroid gland. It was composed of sarcoma and of adeno-carcinoma. The primary tumour was probably an adeno-carcinoma, which acting as a chronic irritant, set up a more malignant and rapidly growing sarcoma which ultimately dominated the entire growth. In most of such tumours this was the usual course of development. 3. With the exception of the neighbouring lymphatic glands in the neck, which showed both varieties of tumour, all the other secondary growths examined were entirely composed of sarcomatous tissue—showing again the greater malignancy and tendency to metastasis of the latter.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on March 5th, Dr. W. J. Tyson, the President, being in the chair.—Dr. George Carpenter read a paper entitled "Seaside Treatment for Sick Children." In the course of the paper he briefly reviewed various ailments for which seaside treatment was beneficial, chief among them being tuberculous diseases of the bones, joints, the lymph glands and peritoneum, and early pulmonary tuberculosis. He said that as a tonic after surgical operations and after recovery from the exanthemata sea air was most valuable, and that cases well-nigh moribund from summer diarrhœa and entero-colitis derived the greatest benefit from it, and that for rickets it was a most helpful adjunct. He then passed in review the different seaside climates within a moderate train journey of London. He considered that the physicians practising at the seaside did not make the best use of the natural advantages of their towns—viz., the sea-water; in this respect they were behind their continental brethren. He advocated the study of the effects of hot and cold sea-water baths and douches on the secretions and metabolic processes of children, and of the therapeutic effects of such remedies on their complaints. He thought that medical men residing at the seashore resorts should give more information to physicians residing in other parts as to the peculiarities of the climates of their towns and more information concerning the class of cases which would receive benefit.—The President thought that there was no scientific reason for sending children to the seaside or to inland resorts, but his experience was that they did well at the seaside. He discussed the possibilities of the effect of the climates of Margate and Ramsgate, and had never been able himself to make out scientifically or clinically why Margate occupied its high position in the minds of the profession and of the public, as compared with some other places. He would not send children with anæmia to a bracing seaside resort. Cases of insomnia and rheumatism did not do well at the seaside. Patients who benefited were those requiring a stringent treatment—those suffering from leucorrhœa, nasal affections, and congestive conditions of the throat and ear. Skin cases did well at the seaside, but dermatologists never sent them there. With regard to eye cases the only point against them was possibly the glare. He thought that many children and adults who went for sea-bathing actually did badly as a result. The seaside physician was willing to treat cases scientifically, but the patients frequently treated themselves as far as the sea-bathing was concerned. He used sea-water for gargles and injections. He found excellent results from the early treatment of tuberculous cases.—Dr. F. Bagshawe fully endorsed the opinion of Dr. Carpenter on the importance of giving delicate children the great advantage of seaside treatment, especially after the occurrence of acute illness. Several large institutions existed at Hastings which gave ample proof of their usefulness among the children of the poor working-classes. He had found the benefit of seaside treatment especially marked in tuberculosis, in bronchitis and asthma, and in chronic heart diseases.—Dr. Leonard Williams said that he was entirely at one with Dr. Carpenter in his complaint that seaside places of this country did nothing to use sea-water as a natural mineral water in the same sense as spas used their natural mineral water in this country. The only English place which he knew where the water was used in the form of baths and douches was at Sidmouth. Sea-water might be an exceedingly good thing, but it ought to be used in dosage, temperature, and amount just as any other powerful therapeutic agent.—Other speakers described the advantages of other seaside resorts.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 20th, Dr. George Williamson, the President, being in the chair.—Dr. A. W. Mackintosh exhibited a case of Narcolepsy. The patient was a man, aged 41 years. Since May, 1907, he had suffered from continual desire to sleep. The attacks of sleep would come on suddenly and last for a few minutes. He fell asleep when driving or at meals. The sleep was apparently quite natural and the patient could be roused from it quite easily by touching him and sometimes merely by speaking to him. The attack was sometimes preceded by a "heavy feeling" at the back of the head. He was nervous and irritable and his knee-jerks were hypersensitive, but otherwise nothing further could be detected. There was a history of syphilis 20 years previously and of alcoholism some years back but not recently. From the lightness of the sleep Dr. Mackintosh did not consider the attacks to be of an epileptic nature. He suggested that they might be the precursor of syphilitic brain changes.—Dr. T. C. Mackenzie quoted a somewhat similar case in a schoolboy, aged ten years, who was admitted to an asylum owing to the development of mental changes and hallucinations of hearing. For 18 months previously to admission he had exhibited marked attacks of a narcoleptic character.—Dr. A. R. Galloway described five cases of serious Visual Deficiency affecting responsible employees in the marine and railway services. Two of his cases were engine-drivers, one suffering from compound myopic astigmatism and the other from hypermetropia. The remaining cases were trawl fishermen, all of whom had taken an active part in the navigation of vessels. The first of these, who showed myopic astigmatism with vision (both eyes) $\frac{6}{60}$, had acted as the mate of a trawler. The other two cases were completely colour-blind.—Dr. John Innes read notes of a case of Atonic Dilatation of the Stomach which was successfully treated by lavage.—Dr. F. Kelly gave the history of a case showing unusual manifestations of Lues. The patient was a house painter who was in the habit of holding his paint brushes between his lips. He developed a circinate and depressed ulcer of the right side of the pharynx, which appeared to be the primary syphilitic lesion. This was followed by the appearance upon the face and extensor aspects of both thighs and legs of an eruption, at first papular, later molluscoid or framboesia-like. As the patient exhibited a very marked idiosyncrasy towards both mercury and iodides the skin lesions were scraped. They healed rapidly, leaving white scars. Several months later the old scars broke out again, forming painful serpiginous ulcers covered with lichen-like crusts. These were scraped, with a successful result, and the patient is at present in excellent health.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 5th, Mr. H. H. Taylor, the President, being in the chair.—Mr. J. A. Rooth showed a case of Conjoined Twins (Pygopagus). The mother was a primipara; her father was a twin and had a family of four pairs of twins. These twins are joined by a partly bony and cartilaginous union of the pelves; they

share a common rectum and anus but the vulvæ are distinct and well formed. The first was born with vertex presentation, the second by evolution, legs first; there was very little delay at birth and no laceration. The twins are a month old and weigh 13 pounds. The first born has a better digestion and cries less than the second.—Dr. C. F. Bailey showed a skiagraph of the twins.—Mr. J. Howell Evans read a paper, illustrated by lantern slides, on Twins and Monstrosities.—Dr. D. G. Hall showed the father of the twins, who had congenital morbus cordis, having a loud systolic murmur over the whole cardiac area, audible also at the back of the chest, the point of greatest intensity being in the pulmonary area where a thrill could be felt. There was neither cyanosis nor clubbing of the fingers.—Dr. A. W. Williams showed a case of Symmetrical Tertiary Syphilitic Ulceration in the region of the Elbows.—Mr. Willoughby Furner read a short communication on the Recent Improvement in Operating for the Cure of Femoral Hernia. He advocated the application of Bassini's method for inguinal to the femoral variety. The incision parallel with and splitting the fibres of Poupart's ligament allowed of easy approach to the femoral ring by pushing up the arched fibres of the internal oblique and transversalis muscles. These muscles were then sutured to Cooper's ligament, closing the femoral ring. This route to the femoral ring came first under his notice in 1903, when division of an abnormal obturator artery during an operation for femoral hernia rendered ligature necessary. He had performed this operation on four occasions. Further inquiry informed him that this operation had been the typical one in use in von Hacher's clinic since 1898. T. E. Gordon of Dublin and R. H. Parry of Glasgow had also advocated the same method in 1900. The advantages claimed were that the site of stricture was exposed to view and that injury to important parts might be avoided. The closure of the upper part of the femoral canal by uniting muscle to ligaments was preferable to closing the lower end by ligament to ligament.

HUNTERIAN SOCIETY.—A meeting of this society was held at the North-Eastern Hospital for Children on March 11th, Mr. F. Rowland Humphreys, the President, being in the chair.—Dr. J. Porter Parkinson showed: 1. A boy, aged five years, who had developed Fibrosis of the Lung, with Bronchiectasis as a sequel of pneumonia three and a half years ago. At the left base the movement of the chest was deficient; there were dulness, cavernous breathing, and râles. The x rays showed nothing abnormal, the diaphragm moving well. 2. A girl, aged nine years, who was admitted for fever of unknown causation of one and a half years' duration. The spleen was enlarged and below this the left kidney was felt to be enlarged considerably. The right kidney was also large and palpable. The urine was diminished in amount; it contained pus and tubercle bacilli had been found in it. The blood showed the characters of a secondary anæmia with a moderate leucocytosis.—Mr. Douglas Drew showed a series of cases in which the Hip had been successfully Excised for Tuberculous Disease. He said that his practice in these cases was only to operate when there was an abscess or when the child was going downhill. He never operated in early cases but, on the other hand, if an abscess were present he never simply scraped the abscess out but excised as much of the joint as was affected through a posterior incision.—Mr. J. P. Lockhart Mummery showed: (1) A case of Hemihypertrophy in a small boy; (2) Dupuytren's Contraction in a girl; and (3) a case of Congenital Absence of the Fibula.—Dr. Taylor showed: (1) A case of Disseminated Sclerosis in a girl, aged five years; and (2) a Cerebellar Tumour in a girl, aged ten years.—Dr. Carpenter showed a Microcephalic Infant with Congenital Heart Disease, probably due to a patent septum ventriculorum.

ROYAL SANITARY INSTITUTE.—A provincial sessional meeting of this Institute will be held in the Council Chamber, Town Hall, Hull, on Saturday, April 4th, at 11 A.M., when a discussion will take place on Diphtheria in Elementary Schools and its Prevention. The discussion will be opened by Dr. J. Wright Mason. The chair will be taken at 11 A.M. by Colonel J. Lane Notter, R.A.M.C., deputy-chairman of the council of the Institute. Tickets for admission of visitors may be had on application to Dr. Wright Mason, medical officer of health, Town Hall, Hull, who is acting as the local honorary secretary of the meeting, and from Mr. E. White Wallis, Secretary, Royal Sanitary Institute, Margaret-street, London, W.

# Rebiews and Notices of Books.

*The Principles of the Treatment of Gout.* By ALFRED W. SIKES, M.D., D.Sc. Lond. London: Ballantyne and Co. 1907. Pp. 117.

IN this work Dr. Sikes has given a brief account of the present state of knowledge with regard to the treatment of articular gout and of those irregular conditions which are probably the result of metabolic perversion in the other organs of the body. We agree with Dr. Sikes in his view that the conception of the nature of gout will vary with the lines of research in the regions of chemical physiology and pathology, and as a result the opinions of various observers may for some time naturally differ in reference to the pathogeny of the disease.

Dr. Sikes touches very briefly on the etiology of gout, confining himself almost entirely to considerations of the therapeutics of the disease. He premises that gout is due to a general change in the whole protein metabolism of the body, the chief seats of the derangement being those tissues and organs which are usually the site of the greatest chemical activity—viz., the muscles and the liver. He is of opinion, and probably rightly so, that this condition is primarily brought about by gastro-intestinal derangement, either due to alterations in the digestive ferments or defects in the process of absorption. In either case he thinks that abnormal chemical products enter the circulation and cause, after the lapse of time, a permanent change in the protein metabolism. There is usually an excess of purins in the blood and they are present in some condition differing from the normal so that they cannot leave the system in the usual way. Dr. Sikes suggests that the excess is possibly due to changes in the liver. He therefore naturally lays stress on the importance of diet but his directions on this subject are not characterised by narrowness or by any inclination to insist on one sort of food only. He rightly maintains that no diet will be suitable unless general nutrition is maintained. He recommends as simple a diet as possible, with good cooking and thorough mastication of the food. With the majority of individuals he considers that a moderate amount of proteins, carbohydrates, and fats is advisable. He also gives directions as to the kind and the amount of fluid food that should be taken. With regard to drugs he considers that the most important is undoubtedly colchicum and he believes that there has useful some misconception as to its dangerous properties. A good account is given of the treatment of irregular gout.

There is little that is new in this volume but it contains a useful summary of the views at present held with regard to the therapeutics of gout, and the practitioner by reference to its contents will obtain hints and suggestions likely to be of value to him in his practical work.

*Studies in Pathology.* Written by Alumni to celebrate the Quatercentenary of the University of Aberdeen and the Quartercentenary of the Chair of Pathology therein. Edited by WILLIAM BULLOCH, Bacteriologist to the London Hospital. Aberdeen. 1906.

THIS excellent volume opens with an appreciation of Professor D. J. Hamilton, the first occupant of the chair of Pathology at the University of Aberdeen, and there is also an account of the establishment by Sir Erasmus Wilson of that post. The other papers included in this volume comprise a number of monographs on subjects of pathological and practical interest by Professor Hamilton and his former pupils. The first of these, on the Alimentary Canal as a Source of Contagion, is by Professor Hamilton himself and contains a large amount of original and suggestive work on the subject illustrated by his own observations on a group of

diseases found in the sheep, of which the most important members are louping-ill (chorea paralytica ovis) and braxy (morbus subitarius ovis). The explanation given of the pathology of these conditions is that a certain proportion of the bacteria which cause the disease and live in the intestine get into the blood stream and are bacteriolysed, the toxins set free by this process producing the characteristic features of the disease. Professor Hamilton considers the application of his observations to some diseases of the human subject, such as chorea, cirrhosis of the liver, and some of the exanthemata.

A valuable paper by Dr. Arthur Keith on Malformations of the Bulbus Cordis, an unrecognised division of the human heart, also contains much that is new. As a result of his observations Dr. Keith maintains that the majority of the cases of congenital stenosis of the pulmonary and aortic orifices are due to developmental errors in the bulbus cordis and not, as is commonly supposed, to fœtal endocarditis. He gives some very interesting figures and diagrams illustrating his views, showing various stages in the development of the normal heart and also demonstrating the nature of some malformations.

Dr. W. L. MacKenzie contributes a paper on the Administrative Aspects of Tuberculosis, in which the incidence of tuberculous disease in Scotland is considered and the organisations available for dealing with the sufferers from it are reviewed. The questions of notification, isolation, and disinfection are all discussed, and the importance of dispensaries on the lines of those in Edinburgh, France, and Germany is emphasised.

Several of the papers are devoted to bacteriological subjects. Dr. George Dean gives the Results of Researches on Certain Problems of Plague Immunity and concludes that toxins, probably endotoxins, can be obtained from broth cultures of the plague bacillus, that injection of large doses of such toxins can stimulate the animal body to the formation of an antitoxin, and that neither antitoxic nor bacteriolytic actions play much part in the protection afforded by an antiplague serum. Dr. Bulloch contributes an experimental study of the Immunity against Bacillus Pyocyaneus in which he finds that recovery from pyocyanic infection in rabbits is probably due to phagocytosis, preceded by the opsonic action of the serum. The Rat Theory of Plague Epidemics is discussed in a very interesting paper by Dr. William Hunter of Hong-Kong. The results of his observations show that acute rat plague is followed by epidemic plague in man and that chronic rat plague appears to bridge over the intervals of epidemic plague.

Dr. G. G. Macdonald writes on Immunity in Pneumococcal Infections and describes the results of an investigation into the course of the opsonic contents of the serum in croupous pneumonia. He found that during the evolution of the disease the opsonic index to the pneumococcus was considerably below unity, varying from 0·45 to 0·8. All the cases in which the opsonic index fell below 0·5 ended fatally. At the crisis great changes took place in the opsonic index; for about 12 hours the amount of opsonin in the serum increased greatly, the rise often commencing before any fall in the temperature was noticeable. In cases undergoing rapid resolution the opsonic index rose suddenly to above normal, reading from 1·1 to 1·6. In fatal cases the index goes on diminishing until death occurs. A large number of interesting observations on various points connected with the character of the opsonins are also contained in this important paper. Other papers on bacteriological subjects are contributed by Dr. G. F. Petrie, Dr. R. D. Keith, Dr. J. C. G. Ledingham and Dr. Bulloch, Dr. J. M. Adams, and Dr. B. R. G. Russell. Dr. A. R. Lang describes some comparative experiments on the use of various disinfectants.

Dr. W. St. Clair Symmers records a remarkable case of Bilharziosis, causing fibromata of the intestinal wall, cirrhosis of the liver, and polyposis of the large intestine. An interesting account of the condition of Epignathus with a well-illustrated description of a typical specimen is contributed by Dr. Alexander Low. The structure, relations, and origin of epignathi in general are discussed and a bibliography is appended. A contribution to the Pathology of Exophthalmic Goitre, by Dr. G. M. Duncan, deals with the microscopical appearances of the thyroid gland in three fatal cases of that disease. There was a general appearance in all of them of increased activity of the gland. Professor A. R. Cushny and Mr. C. W. Edmunds describe their investigation of a case of Paroxysmal Arrhythmia of the Heart with marked acceleration, the irregularity being due to an irregular discharge of impulses and not to defects in the contraction of the ventricles. It is suggested that the arrhythmia is due to auricular fibrillation, a condition of continual incoördinated contraction which can be readily induced in animals. An interesting paper on Eck's fistula, by Dr. J. J. R. Macleod, with a review of the literature relating to previous work, affords a valuable *résumé* of the subject and contains a record of some original observations.

The editor, Dr. Bulloch, is to be congratulated upon the general excellence of the papers which he has collected for this "Festschrift," if we may adopt the expressive German word for such commemorative collections of studies.

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*Syphilis in its Medical, Medico-legal, and Sociological Aspects.* By A. RAVOGLI, M.D., Professor of Dermatology and Syphilology in the Medical College of Ohio, Medical Department of Cincinnati University; Dermatologist to City Hospital of Cincinnati. New York: The Grafton Press. 1907. Pp. 518.

THIS volume affords interesting reading and contains information and comments which are well worthy of study. As Dr. Ravogli points out, the connexion between syphilis and social relations is so little understood that the name of the disease alone is sufficient to cast a mark of dishonour on the man who has had the misfortune to be inoculated. The public in general, ignorant of causation, is unable to understand the difference between one innocently infected and one who exposes himself to infection through lack of morality. Nevertheless, a large number of cases of syphilis are met with in patients who have been accidentally infected with the disease, cases which have been called syphilis insontium, and naturally no reflection on the characters of such individuals is justifiable.

In the first chapter of the book an interesting historical sketch is given of the researches which have been made with a view of discovering the causal agent of syphilis, terminating with a description of the spirochæta pallida. The modes of infection are considered and a good clinical description is given of the primary disorder. Constitutional syphilis is fully described as it affects the tissues and organs of the body, the cutaneous affections receiving especial attention.

A good account is given of the treatment of the disease, external and internal remedies being described, as also treatment by injections and fumigations. After reviewing the various therapeutic measures which have been adopted Dr. Ravogli comes to the conclusion that treatment should not be limited to any one method. Each one must be employed according to the exigencies and conditions of particular cases. He has found that for a routine treatment in ordinary cases in private practice and in hospitals the injections with "gray oil" 50 per cent. are the most convenient and yielded satisfactory results. Full directions are given as to the compounding of this remedy and as to its employment. Dr. Ravogli also speaks well of the use of iodipin in the treatment of syphilis and finds that the disadvantages of iodides are thereby minimised.

The medico-legal and sociological aspects of the disease are discussed in a dispassionate and interesting manner. With regard to the marriage of individuals who have previously suffered from syphilis, the author advises a larger period of delay than is recommended by some authorities. He asserts that when a man has suffered in this way he should not be permitted to marry until he has undergone a regular treatment for a period of four years, with the stipulation that for over a year no specific symptoms should have reappeared. He adds: "With a well-regulated office of this kind for the sanitary inspection of the aspirants to marriage there would be obtained a prevention of the spreading of syphilis and its introduction into the families with the sad and fatal consequences which we have already considered."

Dr. Ravogli comments at some length on syphilis and life assurance. Authorities differ as regards the assessment of an individual who has formerly suffered from syphilis. Some maintain that an extra rating is always required, whilst others are of opinion that it is unnecessary. Dr. Ravogli supports the latter and states that "the idea of imposing a tax on the life of a man who has had syphilis is a bit of red tape of the character of an unnecessary precaution." We think that he here underrates the danger; premature arterial degeneration in syphilitic subjects and certain serious nervous affections may ensue rendering the life of sub-standard value.

We have perused this work with much interest and can recommend it to those of our readers who wish for information on the many aspects of syphilitic disease therein considered.

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*Minor Medicine. A Treatise on the Nature and Treatment of Common Ailments.* By WALTER ESSEX WYNTER, M.D., B.S. Lond., F.R.C.P. Lond., F.R.C.S. Eng. London: Sidney Appleton. 1907. Pp. x.–275. Price 6*s.* net.

Dr. Wynter has taken for his text the words of the prophet Zechariah, "For who hath despised the day of small things?" and has written around it a really admirable treatise. Not only will the student whose undergraduate days are too exclusively occupied in the study of grave disease find this book in some degree a substitute for the "apprenticeship" training of his professional forbears, but it is extremely probable that the practitioner who has been daily treating minor maladies for many years will discover in its pages fresh and useful suggestions for treatment. A careful perusal has left us astonished at the amount of information which Dr. Wynter has condensed in so small a volume and in so readable a manner. It must have been a difficult task to choose the material, for the border-line between trivial and grave affections is indefinable, but very rarely does Dr. Wynter wander from his text, except as when in discussing cephalalgia he is forced to write some words upon cerebral tumour. On the other hand, he has omitted extremely little which is cognate to his discourse and the excellent detail with which he writes on subjects such as the treatment of corns, chilblains, and cracked lips will do much to help the young practitioner over an often awkward and possibly ignominious stile. The only notable omission is that of a section on diarrhœa, except in so far as it concerns infants.

Dr. Wynter has wisely not confined himself to so-called "medical" subjects but has included in his survey such "surgical" ailments as whitlows, sprains, conjunctivitis, varicocele, pyorrhœa alveolaris, and so on. It is noteworthy, however, that surgical treatment is kept in the background and in considering paronychia its frequent necessity might be more strongly emphasised. In respect to furunculosis, the employment of antistaphylococcic vaccine might, we think, have been mentioned, for it has certainly earned a place in the treatment of that disorder. A clear and useful account is given of the other common skin ailments. Dr. Wynter rightly insists on the excellent results given by injections of water as opposed to nutrient enemata in the treatment of gastric ulcer, for which he apparently employs not saline solution but simple aqueous enemata.

There is not much at which to cavil in the book. On p. 22 the expression "Digestion and fermentation go hand-in-hand in the warm stomach" is an unhappy one, for, as the context shows, these processes are in opposition to one another. On p. 151 there is, we think, an undeserved slur cast upon the method of treatment by suggestion in cases of that condition which Dr. Wynter calls "neurosis," when he speaks of the difficulty which they present to the practitioner "unless he is one of those who can subordinate rational therapeutics to the arts of the psychological conjurer." In many such cases treatment by suggestion is a distinctly rational measure. The full consideration of neurasthenia is purposely omitted, for a reason which the author states. The subjects of cough and headache are well and fully treated, and there is a useful section on sea-sickness. Dr. Wynter endorses the favourable experience which many have had in the use of chloretone in this complaint, but he does not mention the effective prophylactic measure of administering it for a day or two before the traveller contemplates a voyage. In considering migraine Dr. Wynter mentions that strong tea is sometimes tolerated during an attack but says nothing of coffee which is sometimes even more useful. We cannot agree with the suggestion on p. 208 that water boiled for drinking purposes may be "freshened" by passing it through a carbon filter. There are short chapters on the special senses and children's diseases but the latter has been too condensed to rank with the rest of the book in utility. On the other hand, the final chapters on the maintenance of individual health and on diet are most valuable, and the latter alone would well earn the book a place on the library shelf of that large body of practitioners on whose skill in the treatment of common ailments and on whose appreciation of "the day of small things" the health and the comfort of the nation so entirely depend. The price of the volume brings it within modest means.

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*Lectures on Medical Jurisprudence and Toxicology.* By FRED. J. SMITH, M.A., M.D. Oxon., F.R.C.P. Lond., F.R.C.S. Eng., Physician to, and Lecturer on Forensic Medicine at, the London Hospital; Medical Referee to the Home Office. Second edition. London: J. and A. Churchill. 1908. Pp. 463. Price 8*s.* 6*d.*

IN our review of the first edition of this work we mentioned the favourable opinion that we had formed of it, and a perusal of the second edition has confirmed the views which we then expressed. In the present issue three new lectures have been introduced. The examination of the person alive and dead is now discussed in a separate chapter and numerous hints are given as to how the examination should be conducted. In the case of living persons stress is rightly laid on the necessity of obtaining their consent before such a course is undertaken. The circumstances that may demand such an examination are also indicated.

A chapter on anæsthetics has likewise been added. The question of consent on the part of the patient is here also an important one, for actions have been brought against medical practitioners for having administered an anæsthetic without consent having been given. This further accentuates the rule that an anæsthetic should never be given without a third person being present. But in urgency cases difficulties and troubles and medico-legal questions of a serious nature may, and do, arise. It may be impossible to obtain consent; perhaps the patient may be unconscious, and in such circumstances the practitioner must be guided

by a conscientious consideration of the necessity of an operation in order to save life. In case of death under an anæsthetic evidence is, of course, required that it was skilfully and carefully administered. Dr. Smith refers to a set of questions drawn up by the Coroners' Society, a copy of which is placed in the hands of a coroner's officer who requests the medical witness who administered the anæsthetic to give the required answers. Dr. Smith criticises these questions with some severity and we agree that some of the questions might well be omitted or amended. For instance, the question, "Was (*sic*) the pulse and respiration watched during the administration and, if so, by whom?" In this form the question is open to objection as implying that important observations were omitted. As Dr. Smith remarks, a man is not bound to incriminate himself and yet here is a coroner asking the witness to do so in a most unmistakeable manner. The question, "Was the deceased excited or violent during the first stage?" is also undesirable as failing to give any information as to danger or safety in giving the anæsthetic. Dr. Smith gives a form in use at the London Hospital which is decidedly preferable to the "Coroner's Catechism," as Dr. Smith terms it.

The third lecture which has been added in this edition is one on death certificates. Some useful instruction is given which young practitioners will do well to follow. The findings of the committee appointed by Parliament to investigate the subject of certificates of death are duly commented on.

We consider this manual a most satisfactory one for students preparing for their examinations, and practitioners will find safe guidance by studying its pages when called upon to give medical evidence in a court of law.

# New Inventions.

## A PORTABLE TUBE STERILISER.

THE accompanying illustration is a half-size representation of a portable tube steriliser and carrier for Graefe's knives which has been made for me by Messrs. Down Bros. of London. The glass tube is fitted with a removeable rack provided with a guard at each end, within which the knife is securely fixed, so as to obviate the risk of damaging either edge or point in removing and replacing the instrument. With the rack and instrument (blade downwards) in position the tube is filled to the mark upon it with absolute alcohol, and the filling is completed by adding distilled water. This mixture (80 per cent. alcohol) is a more efficient germicide than absolute alcohol, and the instrument that remains in this for 24 hours can be considered safe. Before use I usually draw the blade of the knife several times through the

hot water in my steriliser to remove the alcohol and as an extra precaution. On no account should methylated spirit or ordinary tap water be used for filling the tube, as the effect of either upon a good instrument is very detrimental. To remove the knife the tube should be held vertically and the upper end of the rack grasped by any small pair of forceps that may be handy. However, to this end it is safer to employ the little wire-remover supplied by the makers. This device I have found useful for temporarily storing and preserving Graefe's knives, which are ready sterilised in case of emergency. Its portability is an additional advantage; it can be carried in the surgeon's pocket and the knife only removed by him, or under his supervision, a minute or two before the operation is commenced.

Bath. J. BURDON-COOPER, B.Sc., M.D., B.S. Durh.

# Looking Back.

FROM

## THE LANCET, *SATURDAY*, March 20th, 1830.

### HOPITAL ST. LOUIS.

CÆSARIAN OPERATION IMMEDIATELY AFTER THE DEATH OF THE MOTHER.

D. E., ætat. 28, was admitted on the 2nd of June, 1829. It appeared that she had been in the habitual enjoyment of good health up to the last four years, during which she had been labouring under all the symptoms of chronic bronchitis, which had ultimately terminated in phthisis. At the time of her admission, she was in the seventh month of pregnancy; she was much wasted, and complained of violent pains in the chest, great dyspnœa, frequent cough, with bloody and puriform expectoration. On the 17th of July, about seven o'clock in the evening, she was on a sudden seized with hæmoptysis; the blood gushed from the mouth and nostrils, and she died before it was possible to give her any assistance, about four minutes after the commencement of the hæmorrhage. Five minutes after her death, M. Huguier proceeded to perform the Cæsarian section, in the following manner: an incision was made through the skin and linea alba, and the peritoneum opened from below upwards. The parietes of the uterus having now been divided at its upper portion, the liquor amnios escaped with some force, and the child was extracted without any further difficulty. It was pale and motionless; the pulsations of the heart could scarcely be felt. The umbilical cord was tied before it was divided; hot frictions were made over the præcordial region, and air blown into the mouth; under this treatment, and the use of a warm bath, the pulsation of the heart became stronger, respiration ultimately also took place, and at the time of the report, thirty days after the operation, the child was perfectly healthy. There is no doubt that the suddenness of the death of the mother was the indirect cause of the success in this case. The more or less protracted agony of the mother would unquestionably have been accompanied by the death of the child. Instances of successful Cæsarian section, after the death of the mother, are accordingly extremely rare; and at the Maternité, only one case of this kind occurred in fifteen years. M. Monod performed the operation three times last year, at the Maison d'Accouchment; in two cases the mothers were near their confinement; one of the children was dead, the other gave only, for two or three minutes, feeble signs of life. In the third case the mother died in the eighth month of pregnancy, of cerebral inflammation and dilatation of the heart; the operation was performed twelve minutes after death; the placenta was found to be inserted at the anterior portion of the uterus: after the section of the umbilical cord, about a pint of blood escaped from the uterine end. The child was well formed, about four pounds in weight, pale, motionless, and the heart pulsated very feebly; after the insufflation of air, however, the pulsation of the heart, and the carotid, became much stronger, and even perceptible to the eye: this effect was, however, but transitory, and after an hour the action of the heart appeared almost to cease, and the upper extremities became stiff. After two hours, the insufflation having still been persevered in, with the addition of hot frictions, &c. the pulsation of the heart again became stronger, and the extremities flexible; and three hours and a half after its birth, the child made some inspiratory effort attended with a feeble scream; after this, however. the pulsation of the heart became insensible, and it died, five hours after birth.—*Revue Médicale, &c.*

ROYAL METEOROLOGICAL SOCIETY.—At the last monthly meeting of this society, which was held on Wednesday, March 11th, at the Institution of Civil Engineers, Great George-street, Westminster, Dr. H. R. Mill, the President, being in the chair, Dr. G. Hellmann, the director of the Royal Prussian Meteorological Institute, Berlin, delivered a lecture entitled "The Dawn of Meteorology," in which he detailed the history of meteorology as a science and as a branch of knowledge. His audience were much interested in his learned discourse.

# THE LANCET.

*LONDON: SATURDAY, MARCH 21, 1908.*


## Miss Florence Nightingale.

ON Monday the City of London did itself honour by adding to its roll of Freemen the name of Miss FLORENCE NIGHTINGALE and we doubt whether the impartial historian in future days will find in that notable list of princes, generals, and statesmen one more worthy of commemoration than that of the lady who brought order into the hideous chaos of the Crimean hospitals and left behind her as an imperishable monument her just title to be called the founder of modern institutions for the training of nurses. It is probably impossible for those of the present generation to realise the full horrors which prevailed in the charnel-houses called hospitals which were attached to the British army in the first stages of the Crimean war. Even those veterans who took part in the struggle must have their memories of its terrors dimmed by time. Yet the bare recital of facts points to a state of things that seems incredible. In one hospital some 3000 sick and wounded were huddled together. Order was non-existent, cleanliness was neglected, filth and infection reigned supreme and uncombated. One-half of all cases admitted died and of those who underwent amputations 80 per cent. succumbed to hospital gangrene. Surgeons were sent out at last in adequate, even more than adequate, numbers, but they were hampered at every step by the bonds of routine so dear to the heart of incompetent officialdom. A futile commission was sent to report and meanwhile the men died in their thousands. Stores were sent in abundance but they lay in the ships at anchor in the harbour or mouldered in heaps on the beach; no transport was provided to carry them to the places where they were so sorely needed. Of intelligent management in the transport and hospital department every vestige was apparently at an end. Only the advent of some new force from without, capable of bursting through the strangling coils of routine, could save a situation that seemed already desperate. Then, as has happened so often by the action of that good fortune which attends the growth of the British power and which alone has sufficed to annul the effects of countless blunders, there appeared the *dea ex machinâ* to cut the knot. Miss NIGHTINGALE and her band of nurses confronted the fearful situation before them with courage and infinite patience; the labours imposed upon them seemed superhuman but they were borne unflinchingly. They set themselves to do that which was nearest and most obviously needed and which therefore had been overlooked. They introduced cleanliness where there had been filth, order where there had been confusion. If official routine sought to hamper them it was scornfully cast aside. When stores were locked up in obedience to an order that they were to be inspected before distribution Miss NIGHTINGALE bade her orderlies break open the door of the storehouse and took what she needed for the sufferers in the hospital. True, she was but the spearhead behind which was an overwhelming force of public opinion, but it needed a point of exquisite temper to pierce the armour of ignorance and inertia. Of her kindness, her gentleness, her marvellous influence over her patients; of her firmness, her energy, her untiring devotion, we need not speak. Are they not written in the book of the chronicles of the British nation? No less noteworthy were the striking modesty with which she started on her task and returned on its triumphant completion, without parade or gratulation, and the unselfishness which prompted her to refuse all reward for herself when it was offered to her by a grateful people, and which even in the recent ceremony of civic pomp bade her decline the offer of a golden casket to inclose the address presented to her, choosing rather that the money thus saved should be spent on some work of charity.

Not only shall her work live after her, but she has had the satisfaction of seeing what she so well began grow to maturity during her own lifetime. So firmly established is now the institution of the trained nurse—that indispensable auxiliary to physician and surgeon in the warfare with disease—that we can scarcely realise how recent a growth it is. It has sprung from the generous use made by Miss NIGHTINGALE of the money subscribed as a gift to herself, which she devoted to the foundation of training schools for nurses at the principal hospitals in London. Previously the poor in their own homes and in the workhouses afforded each other such nursing as they could supply; the rich were nursed by servants equally ignorant of the laws of health. Now the trained nurse is available to all or nearly all alike. She is a missionary of cleanliness and sanitary knowledge in the slums and in the villages. She brings method and order into the surroundings of the sufferer who is tormented by the fussy attentions of well-meaning friends. She is relied upon by the physician to carry out the regimen which he orders and which he himself cannot supervise, and by the surgeon to maintain in his absence the cleanliness which is the essence of modern technique.

Such is the edifice which has been gradually built up upon the foundations so surely laid by Miss NIGHTINGALE over 50 years ago. Of the necessity for training as a preparation for the nurse's calling Miss NIGHTINGALE'S own example is the clearest illustration, for it was not for her zeal and enthusiasm alone that she was chosen for her work in the Crimea—countless women doubtless felt the same stirring within them at that time of horror—but rather because she had devoted herself to acquiring all that was then known of the art of nursing. Hence arose her wonderful clearness of vision that gave direction to her zeal. Honours have been offered to her in recent years, first by HIS MAJESTY the KING in conferring upon her the Order of Merit and now by the City of London, one of whose most graceful functions it is to act as mouthpiece for the nation in honouring those who have deserved well of their fellow-countrymen. Along with these honours she assuredly knows that there go out to her the gratitude and the affection of all who realise her heroism. Many perhaps who

are young will learn now for the first time in connexion with Monday's ceremony the full extent of the debt which the country owes to Miss NIGHTINGALE, but her name is imperishably written in the book of fame and our children's children shall rise up and call her blessed.

## The Removal of House Refuse.

WE congratulate the Gordon Hotels Company upon the conclusion of their prolonged litigation with the Westminster city council recently brought to a termination by the decision of the House of Lords, and we are not disposed to congratulate the corporation in question upon the spirit of resistance to the legal demands of its ratepayers which caused it to carry an appeal to two successive courts in the face of an apparent if not unquestionable absence of jurisdiction. The anxiety of local authorities to safeguard the interests of their ratepayers, not by perfection of method and economical administration, but rather by seeking to evade that which they should do promptly and freely, is at times brought forcibly to the attention of medical practitioners in the exercise of their profession. They also find themselves sometimes the victims of fine-drawn and possibly imaginary distinctions between their domestic and their professional needs, where such questions as the removal of refuse or the supply of water are at issue. We may remind our readers that the recent case to which we are referring began in April, 1905, when a summons was taken out by the company named above in respect of the failure of the Westminster corporation to remove from the Hôtel Métropole certain refuse. This daily accumulation the proprietors described as house refuse, whereas the corporation during the early part of 1905 for the first time claimed to treat it as trade refuse. The summons and the subsequent proceedings were under the Public Health, London, Act, 1891. The refuse in question consisted of rejected matter from the hotel kitchens and dining rooms, such as ashes from the grates, sawdust from the kitchen floor, egg-shells, cans which had contained food-stuffs, broken glass, and other rubbish inseparable from the feeding and entertaining either of guests in a hotel or of the ordinary inmates and visitors of a private house. It was not contended that it would not be removed free of charge from a private house under the Act, but the council maintained that in the case of a hotel it was trade refuse, for the removal of which it was willing to contract at a charge of 10*s*. per load or part of a load. There was no direct legal authority upon the subject but a decision had been recorded in the case of the same hotel before the passing of the Act of 1891, in which the vestry, then the authority concerned, had been defeated in an attempt to show that the clinkers and ashes of the hotel furnaces were trade and not house refuse. The natural inference from this decision had been accepted until 1905 and no attempt was made before that year to classify as trade refuse matter which, we suggest, was rather more obviously house refuse than the unconsumed residue of fuel from furnaces.

The summons taken out in respect of the Hôtel Métropole was for the decision of a "test case," a large number of hotels being included in the corporation's refusal, and naturally success on the part of that body would have almost obliged other local bodies to follow its example in the interest of their ratepayers' pockets. After hearing evidence, however, followed by prolonged argument, after having inspected sample loads of the refuse, and having considered his decision for some weeks, Mr. FENWICK, sitting at Bow-street,[1] decided in favour of the hotel company, saying, *inter alia*, that in his opinion the rubbish in dispute was "the ordinary domestic refuse which resulted from, and was incidental to, the supply of warmth, food, and other refreshment to the guests in the hotel," and that it was "refuse which on sanitary grounds and in the interest of the health of the inhabitants ought to be removed." He intimated his appreciation of the importance of the question and gave every facility for the appeal which followed to the Divisional Court. That court agreed with Mr. FENWICK as to the refuse in dispute being house refuse, and the question whether any other tribunal had authority to disturb the magistrate's finding was either not raised or was not raised successfully. When, however, the Westminster city council proceeded to contest the matter further in the Court of Appeal and afterwards in the House of Lords, each of these tribunals held successively that they could not review the facts or go into the questions submitted because the magistrate was the sole judge of what is, or is not, trade refuse. We have referred to the spirit of resistance animating the council, not because we think it altogether desirable that so important a question should be decided by a petty sessional bench without possibility of its decision being reviewed, but because the appeal was persisted in notwithstanding a lucidity of expression in the section governing the matter which does not always characterise Acts of Parliament. The words used are as follows[2]: "If any dispute or difference of opinion arises between the owner or occupier and the sanitary authority as to what is to be considered as trade refuse, a petty sessional court, on complaint made by either party, may by order determine whether the subject matter of dispute is or is not trade refuse, and the decision of that court shall be final." It appears to us that when the hotel company had obtained a magistrate's decision in its favour which had been carefully considered before it was delivered, and still more so when a divisional court had affirmed his view, to press a further appeal upon a point as to which the statute declared the magistrate's decision was to be "final" was to expend on litigation resources which had far better have been employed in doing the work required.

After all, the good sense of the community could find nothing repugnant to it in the proposition that house refuse in a private establishment and house refuse similarly produced in a hotel were upon a similar basis, more particularly when we remember that a decision adverse to the particular hotel in question might have been applied equally to the removal of house refuse from a large number of other hotels, from so-called "private hotels," and, so far as we can judge, from boarding and lodging houses. We know nothing, moreover, about the proportion which the rates paid by the Hôtel Métropole bear to the cost of removing its refuse but we will hazard a guess that it contributes its full share to the exchequer of the local authority. We have no doubt

[1] See the Times, April 15th, May 27th, June 5th, June 24th, 1905.
[2] Public Health, London, Act, 1891, Sec. 33, Subsec. 2.

that if the magistrate's decision had been adverse the management of the hotel in question would have contracted for the speedy and efficient removal of matter which, in Mr. FENWICK'S opinion, "in the interest of the health of the inhabitants ought to be removed," but we do not feel equally confident that this would have happened in all cases, and hotels of a humbler class might have found it possible to allow undesirable matter to accumulate before removal and to become a source of danger to their guests. These at least will not be losers by the decision upon which we have commented. The prompt removal of the house refuse where they lodge will be to the advantage of their health and they will not be in the position of paying twice over for the same thing. In other words, if they reflect that the bills presented to them by the innkeeper are rendered higher by reason of the large and increasing rates payable in the metropolis, they will not at the same time feel that they are paying an additional levy for the performance of those very services to their health which the rates are generally supposed to cover.

## Lumbar Anæsthesia.

To what extent, if any, the method of producing anæsthesia by injections into the spinal canal will eventually supplement or replace the use of general anæsthetics we are not yet in a position to say with any certainty. The experience, however, of the pioneers in this matter, both upon the continent and in this country, is now so considerable that a very fair estimate of the present value of spinal anæsthesia may be taken. That there are several strict limitations to the field in which this mode of anæsthesia is available is at once obvious. It cannot, generally speaking, be safely employed for operations upon any part of the body above the umbilicus. If higher anæsthesia is aimed at there is risk of intercostal paralysis. Less definite but none the less perfectly valid objections to the use of spinal anæsthesia arise from what may be termed the personal equation on the part of both surgeon and patient. As regards the latter there are many persons in whom the mere presence of consciousness during the performance of a serious operation would have a depressing and deleterious effect. It is quite true that the special senses may be effectually cut off in addition to the abolition of pain by the spinal injection. The eyes may be bandaged and the ears effectually stopped; the nose even may be so obstructed as to preclude the smell of antiseptics, and so on, and yet in persons such as we mean the consciousness of these very precautions and the sense that an operation is going on somewhere upon the body have a harassing and undesirable psychic result. It is clear, then, that not all patients are the proper subjects for spinal anæsthesia, and the mental attitude of the patient is to be taken carefully into consideration. Whilst the method may generally speaking be most appropriately applied in the case of the typical male hospital patient, the carman, the butcher, and the dock hand, for instance, on the other hand, women and children even from the less educated or less sensitive classes of the population are rarely good subjects for spinal anæsthesia. The sense of time, too, is one to be reckoned with, for it is one that cannot be abolished, like sight, hearing, and smell, by any local device. A conscious patient is liable to become much disconcerted if the operation appears to be taking much longer than he has been led to suppose will be the case, and that operations under spinal anæsthesia do have this appearance to the patient is naturally often the case. It is well to forewarn the patient of this likelihood and also to take care to assure him from time to time that all is going as expected and that the time seems longer to him than it really is. If the patient's temperament plays a part in the successful application of this method it is no less certain that the surgeon's also is a factor of importance. There is a constant sense of restraint whilst operating upon a conscious patient that is intolerable to some natures. Even if the patient's ears are stopped the surgeon feels a necessity for guarding any comment upon the progress of the operation or any remark upon some perhaps unexpected complication that would in other circumstances fall harmlessly from his lips. In the same way he has not an untrammelled freedom in giving directions to assistants and nurses. These are, perhaps, minor matters but in the concentrated attention essential to the performance of operations minor matters play a peculiarly striking part, at any rate with individuals so constituted as are some of the best of surgeons.

If it were asked, "What is the advantage of spinal over general anæsthesia broadly speaking?" the first question that would naturally arise would be, How do they compare from the point of view of safety? Now the dangers of spinal anæsthesia have, of course, been reduced greatly from what they were some nine years ago when BIER, the first to give accurate form to the method, abandoned it on account of its high mortality. That was a time when cocaine was the only available agent. The advent of such drugs as β eucaine, tropa-cocaine, novocaine, and especially of stovaine, has greatly increased the safety of spinal anæsthesia. Nevertheless, danger has not been abolished and accounts of fatal cases appear from time to time. Some of the fatalities have been the result of an aseptic puriform meningeal effusion within the spinal canal, such as occurred in a non-fatal case of which we recorded the details.[1] Short of fatality untoward results recorded are paralysis of varying duration and violent headaches and sickness. It must be remarked, however, that Mr. A. E. J. BARKER from his most recent experiences believes that serious after-effects are entirely avoidable and that even headache and sickness can be escaped or greatly diminished by attention to details which he describes. The transient motor paralysis following the use of stovaine can be avoided by the employment of tropa-cocaine. It is pretty clear, however, that in ordinary cases as regards danger we are probably not wrong in considering that spinal anæsthesia except in the most skilled hands is at least as dangerous as general anæsthesia in average hands and more dangerous than the latter is in skilled hands.

When we come to special cases the matter is rather different. There are certain cases in which general anæsthesia even in the most skilled hands adds to the danger of operation. As such we may instance cases of advanced diabetes in which the advent of coma after anæsthesia is a

[1] THE LANCET, Dec. 14th, 1907, p. 1703.

result not always to be averted by the highest degree of skill and care. Or, again, such a case as one of acute bronchitis in an elderly person with intestinal obstruction and a much distended abdomen hampering the diaphragm. In the latter case the danger is mainly from pneumonia after anæsthesia and it may be is not entirely removed by the use of spinal injection, particularly if any intercostal paralysis should follow. But in the case of diabetes the risk is probably reduced by the avoidance of general anæsthesia. It may be granted then that a surgeon might find himself confronted with circumstances in which spinal injection offered particular advantages. Such circumstances would be the impossibility of having the help of a skilled anæsthetist or the presence of complications of the kind which we have just described. The question arises then whether surgeons would find it desirable to master the technique of spinal injection for the sake of these rare instances. For one thing appears quite certain—viz., that good results cannot be obtained with this method of anæsthesia except by those who have acquired considerable experience in the matter. On this point Mr. BARKER, to quote only one authority, is very clear and we may repeat his words that "lumbar anæsthesia claims a very close study and those who employ it casually without this incur grave responsibility." This surgeon's views on the way in which the analgesia is produced differ from those held by the followers of BIER. The latter believe that diffusion plays a part and that the drug is brought into contact with nerve roots by movement of the spinal fluid. They do not believe that gravity plays any part in the matter. Mr. BARKER uses a fluid of heavier specific gravity than the liquor spinalis and maintains that by using the influence of gravity obtained through alterations of the patient's posture he can accurately localise the action of his injected fluid. The fluid which he recommends contains 5 per cent. stovaine and 5 per cent. glucose. This observer reports 14 failures to produce adequate analgesia in his first 100 cases and only six in his second 100, bearing out his contention that the greater the experience of the operator the larger will be his proportion of successes. That is to say, apparently during the acquisition of experience the presence of someone who can administer a general anæsthetic, if necessary, is essential. We have knowledge of several cases in which such a necessity has arisen and it was remarkable with how little of the general anæsthesia a perfect result was secured after the spinal injection had been made. This use of the combined anæsthesias leads to the question whether the spinal method might not be sometimes employed in conjunction with general anæsthetics for the prevention of surgical shock. It is largely from the point of view of its efficiency in eliminating shock that Mr. H. PERCY DEAN has advocated the use of spinal injection. It must be said, however, that Mr. DEAN takes up the position which many will dispute that shock is not materially diminished by the use of general anæsthetics. The abolition of shock can, however, be procured, he maintains, by the use of such drugs as act upon the peripheral part of the nervous system in such a way that stimuli are prevented from passing from the field of operation upwards to the vital centre. In stovaine we have, of course, one of several such drugs. In Mr. DEAN'S opinion the avoidance of shock and the absence of the risk of evil after-effects should lead us to choose spinal in preference to general anæsthesia in many cases of severe and acute abdominal disease. In cases of persons in ordinary health he thinks the choice less important and one to be made rather in accordance with the preferences of the patient. There are, of course, persons who dread the idea of losing consciousness, just as there are many others whose one wish in the matter is expressed in the words, "Don't let me know anything at all about it." The former would probably choose spinal injection, whilst nothing but general anæsthetics can meet the desires or quiet the minds of the latter class.

# Annotations.

"Ne quid nimis."

## SOUTHERN *v.* LYNN THOMAS AND SKYRME.

WE publish in another column an appeal from a representative body of medical men to the profession at large in favour of a fund to reimburse Mr. J. Lynn Thomas and Mr. H. E. Skyrme the enormous sum of money which has been spent in defending the action for malpraxis which was decided rather over a year ago. The facts may be fresh in the memory of our readers, but if not they will find a *résumé* of the circumstances prefixed to the letter of appeal. We trust that the fund, the objects of which receive such splendid support in the medical profession and the inauguration of which has been so happy, will in a brief space of time amount to the sum appealed for, large as that sum is. We shall report in our columns the progress that is made in collecting subscriptions and hope that before many issues of THE LANCET have been published we may be able to announce the welcome tidings that the fund is closed. Many of our readers have no doubt already received a statement of the case in which the pertinent question is asked, "Is a surgeon to be held culpable if after careful investigation he advises treatment which he considers the best even if different from all other methods previously adopted?" The answer to this question is loudly and clearly "No." Such a surgeon must be held blameless whatever the issue. Every method of treatment embodying an advance must differ from methods either in usual practice or recommended in text-books, and to punish the surgeon for intelligent and thoughtful modifications of existing routine, or traditional technique, is simply to punish him for making progress in his science. We are not surprised to learn that the protests from the medical profession against the reactionary process described in the statement which has been circulated have been already numerous and emphatic and we anticipate that the publication to our readers of a full account of the facts will result in many more such protests couched in the practical form of a subscription to the fund. We publish in another column in addition to the facts of the case and the appeal for subscriptions an interesting letter from Mr. Robert Jones, surgeon to the Royal Southern Hospital, Liverpool, which deals with many of the technical aspects of the diagnosis and treatment of such injuries as were discussed in the case of Southern *v.* Lynn Thomas and Skyrme. Our readers will learn from this letter how a common-sense aspect of the matter agrees with accepted scientific knowledge. It may occur to them at the same time that the ordinary judicial processes of this country are not best calculated for the threshing out right from wrong in such matters.

## THE QUESTION OF A MUNICIPAL SLAUGHTER-HOUSE FOR PORTSMOUTH.

IT is a somewhat remarkable circumstance that in this twentieth century in a country wherein a knowledge of the laws of health is so widely diffused it should be necessary to compile a detailed report in order to prove to the sanitary authority of one of our large towns that it would be a desirable measure to replace by a municipal slaughter-house the numerous private killing places which now obtain. It seems difficult to understand how anyone having the health of the public at heart can question the importance of a better control of our meat-supply than actually exists and yet we find Dr. A. Mearns Fraser, the medical officer of health of Portsmouth, putting himself to infinite trouble in collecting data from other more go-ahead towns in order to induce the corporation of Portsmouth to erect an abattoir. It is obvious, however, that Dr. Fraser knows his best course and he therefore, in his report, sets out the alleged drawbacks to municipal slaughter-houses in order to demolish them effectually. Such allegations comprise high initial and working expenses, the curtailment of the amount of home-grown meat by means of which a premium is placed upon foreign produce, the difficulty and loss of freshness resulting from cartage of the meat from the slaughter-house to the shops, and other similar arguments. Dr. Fraser is able to demolish these allegations and he points out, on the other hand, the bad positions occupied by private slaughter-houses, the nuisances to which they sometimes give rise, and the cruelty which, at least in some measure, is almost inseparable from the employment of unsuitable places. It is, too, as he observes, obviously impossible properly to supervise the meat dealt with in these private slaughter-houses or to prevent questionable cattle from being slaughtered at night and the meat disposed of in illicit fashion. As regards the relatively important matter of cost Dr. Fraser shows by means of a table comprising returns from towns which have already provided public slaughter-houses that in many cases there is an actual profit, more particularly when a municipal meat market is associated with the slaughter-house; in other cases there is no loss and in some there is a deficit. Dr. Fraser thinks, however, that the prospects as regards Portsmouth are promising, more especially so if some organised effort is made to make use of some of the by-products of the slaughter-houses—i.e., to carry on some industry, such as glue, manure, or bone works in conjunction with the abattoir. Success in all senses depends, in Dr. Fraser's view, upon powers being obtained both to close existing slaughter-houses and to render the abattoir a clearing-house for all meat sold in the borough but killed beyond its limits. There can be little doubt that this is quite a sound view. In so many cases relatively little advantage is derived from an abattoir owing to the fact that the butchers cannot be induced to make use of it and this drawback has been so material in some towns that powers to close existng private slaughter-houses have been secured by special Act of Parliament—i.e., by the promotion of a private Bill. In some instances the names of the butchers using the abattoir have been published but considerable discontent seems to have sometimes arisen from this procedure. Probably, therefore, Dr. Fraser is acting wisely in advising the Portsmouth town council that, if it is decided to erect an abattoir, power shall in the first place be secured for closing private slaughter-houses and for insuring that all meat killed outside the borough limits shall, before being exposed for sale, be passed through the abattoir for inspection. He thinks, however, that such power shall be secured by means of a general rather than a local Act of Parliament but for this we are afraid that Portsmouth may have to wait a considerable time and we should like to see the public abattoir provided in a more expeditious fashion. The returns furnished by Dr. Fraser are very instructive and local authorities contemplating the provision of an abattoir would do well to obtain a copy of the report.

## "A FAIR HOLIDAY DRINKER"!

THE reformers of the present are not students of social history. They assume that the drinking habits of the nation are on the increase and need Draconic checks, but they abstain from reading such literature as would convince them that, as a whole, England is infinitely more sober than at the beginning of the nineteenth century. There is something staggering in this account, for instance, of one of Byron's "nights out." Scrope Davies, Byron's friend, described him as a "fair holiday drinker" only, a phrase implying that he was not in any sense a toper. On April 9th, 1814, Byron writes to Moore with evident self-satisfaction: "I have also been drinking, and on one occasion, with three other friends, at the Cocoa Tree, from six till four, yea, unto five in the matin. We clareted and champagned till two, then supped, and finished with a kind of regency punch composed of madeira, brandy, and green tea, no real water being admitted therein. There was a night for you!" Byron was a six-bottle man in the sense that six bottles of claret, besides champagne, would be drunk in a night's sitting by himself and another "holiday drinker." At the age of 26 the poet found himself unaffected by these wines, which were doubtless pure, but he indulged in severe physical exercise to counteract any evil effects that they might have upon him. Besides this, he would live for days on biscuits and soda-water, drinking the latter copiously. "His stomach," says Mr. Street in "The Ghosts of Piccadilly," "was born out of due time. Were he living in our day the apostles of new diets would have found in him their most attentive listener, their most enthusiastic practitioner." His dietetic eccentricities apart, Lord Byron is certainly typical of the drinking habits of the age of the dandies, an age which appears to us incredible, though less than a century has elapsed.

## THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

AT a meeting of the Metropolitan Asylums Board held on March 14th the question was discussed as to how more candidates might be attracted to the Board's asylum service. It arose on the report of a subcommittee which had been appointed to consider the matter, and this committee had conferred with several medical superintendents under the Board as to the cause and cure of the trouble. These gentlemen suggested six common grievances of the junior service, which may be thus summarised: (*a*) annual re-election necessary after three years' service; (*b*) regulations restricting visitors and payment for meals served to them from the medical officers' rations; (*c*) method of giving testimonials; (*d*) their status as subordinate officers; (*e*) liability to transfer between institutions; and (*f*) procedure as to appointments. They saw no necessity to alter the rules regarding (*c*), (*d*), and (*e*), but were very strongly in favour of reform in the other particulars. They deprecated the re-election rule as tending to make the officers think themselves liable to arbitrary dismissal; they considered that the applications of testimonials may with advantage be addressed to the medical superintendents and not to clerks of asylums; but the chief point upon which feeling seems to be acute was that of the entertainment of visitors. The committee's report detailed certain regulations which do not exist in the County Council or at the county asylums, and which the officers regard as irksome, and urged their withdrawal. On these matters a warm discussion was raised, especially upon that of the provision of meals for visitors, a recommendation which one Draconic gentleman

held up to scorn as "the thin end of the wedge of corruption." In spite of his indignation the general sense of the meeting seemed in favour of reform, Mr. Eckroyd, Mr. J. H. Lile, Mr. Harold Spender, and Dr. H. W. Gell warmly championing the cause of the medical officers, although Dr. Gell felt bound to enter a protest against the emphasis that had been laid upon the "argumentum ad stomachum." The truth is, of course, that this is only one of a series of petty annoyances to which assistant medical officers are constantly subjected in their dealings with the official administration of the asylums, and we would suggest that it is not their stomachs that are offended but their sense of hospitality. As several speakers pointed out, a man of a certain age has a right to some sort of a home, and the power hospitality is one of the great privileges of that possession. If the medical officers wish to share their rations with their friends there seems no reason why they should not do so without the payment of even the moderate fee which the service at present demands from them and without reporting the fact to the steward, which is, we suspect, where the shoe really pinches. The medical superintendent who advised the committee pointed out that the charge of chronic cases of insanity did not open up a brilliant career to an energetic man—such a one would seek a post where he could study the acute forms of the disease—and the only hope of securing a good supply of the best class of man was in making the service more attractive. In this connexion the report stated that there was no reason why the senior assistant medical officer should not be allowed to marry and to live outside the asylum, and we feel sure that if the salaries are revised so as to make this really practicable it should go far towards popularising the service. As it is, a man feels that if he cannot attain to a superintendentship he has been at the best a qualified failure. After much discussion the whole matter was referred to the general purposes committee, and we hope that something more than talk will come of it for the sake of the medical officers and of the institutions which they serve.

## THE PAINTINGS OF DALTONIANS.

AN interesting article is contained in the first number of the *Recueil d'Ophtalmologie* for 1908 from the pen of M. Angelucci. It deals with the subject of Daltonians (those who are unable to perceive or to discriminate colours) which was originally brought into notice by M. Liebreich. This well-known ophthalmic surgeon delivered a lecture at the Royal Institution nearly 40 years ago on the influence of defects of the eye in painters on their works and he particularly drew attention to the later works of Turner whose paintings, he maintained (we speak from memory), presented peculiarities which showed that he saw nature through a yellow medium, that medium being, in fact, the lens which at Turner's age (over 70) had undergone the usual retrogressive changes of advancing years. Mr. Ruskin and several artists of repute at once entered the lists and a lively discussion arose, some even denying that the defects noted by M. Liebreich existed and pouring much ridicule on his observations. The more thoughtful were, however, inclined to support him. M. Angelucci has approached the subject of optical defects from another point of view and has taken great pains in diagnosing Daltonism in painters and in the next place in determining the effects of the defect on the paintings of those who pursued that art. M. Liebreich's attention, it is remarked by M. Angelucci, was in the first instance attracted by observing certain coloured "bill-posters" in which a market was represented in which the cattle in the light were depicted by a bright red colour, whilst the shadows of the roofs of the houses and of the animals were painted green. This peculiarity, which it is impossible to conceal, immediately betrays the Daltonism of the painter in whom it occurs and M. Angelucci proposes to term it "Liebreich's sign." He criticises a series of pictures executed by painters suffering from this defect and consolingly points out that whilst the composition, the drawing, the perspective, and other qualities of an excellent picture may be present the failure of the artist in a commercial point of view is to be attributed to this fundamental defect. The reason why neither teachers nor students trouble themselves about colour defects in the schools of painting is because colour is not essential in art. A simple line defining form is sufficient to raise the idea of an object. The continued efforts of young artists to obtain new and striking colour effects tend to cause the defect to be overlooked. Providing the form, perspective, and *clair-obscure* are rightly rendered it easily escapes notice. Turner's sense of colour must in his best days have been extraordinarily acute. On one occasion being with George Hayter in Venice he woke up Hayter with so vigorous an exclamation of delight whilst leaning out of the window as at once to bring that painter to his side. "Look," he said, "look at the glorious purple under those verandahs." "I stared," said Hayter, "at the place indicated but saw nothing remarkable."

## ETIOLOGY OF YELLOW FEVER.

To the *Texas Medical Journal* for October, 1907, Dr. A. M. Fernandez Ybarra contributes an article entitled "Yellow Fever again in Cuba." The gist of the paper is apparently to cast doubt on the agency of the stegomyia fasciata in transmitting yellow fever. In it the investigations of the French Commission from the Pasteur Institute of Paris, the English Commission from the Liverpool School of Tropical Medicine, and the German Commission from Hamburg are referred to. The experiments are said to have been, in the opinion of the writer, improperly conducted under abnormal and artificial conditions instead of following the natural process of the development of yellow fever. It would, however, appear that no proof can be clearer than that furnished by Dr. Walter Reed, Dr. Carroll, Dr. Agramonte, and Dr. Lazear in 1901.[1] Their investigations were carried out in Cuba, a small camp of non-immune men being formed in an open field. After this had been occupied long enough to show that yellow fever in its stage of incubation was not present five of the men were bitten by infected mosquitoes and in from three to five days each was seized with a well-defined attack of yellow fever. In a second series of experiments four non-immunes were inoculated with blood from yellow fever patients; each was attacked with the disease, whilst four other men who had suffered an attack from infection transmitted by mosquitoes manifested no bad effect from a similar inoculation. A third series of experiments was made with clothing and bedding contaminated with the discharges of yellow fever patients or worn by them. A small unventilated hut was built, its interior guarded against mosquitoes by wire screens. Three men, all non-immunes, passed 20 consecutive nights in the hut, sleeping in the contaminated sheets and blankets. After this a fresh stock of soiled articles, including pyjamas, undershirts, and night-shirts, in addition to bedding, was obtained from the fever hospital, and the non-immunes occupied the room for 21 nights. This experiment was repeated a third time for 20 nights by two other non-immunes; yellow fever was not developed in any of these cases. Meanwhile, another small hut was built, well ventilated and divided by a wire screen from the floor to the ceiling in the middle, thus dividing it into two compartments. Every article before

[1] THE LANCET, March 23rd (p. 900) and June 15th (p. 1695), 1901.

admission into this room was disinfected by steam. A non-immune was admitted into one of the compartments, into which 15 infected mosquitoes had been set free, and bitten. He incurred yellow fever. The other compartment was occupied by two non-immunes for 18 days with freedom from attack. These experiments we certainly hold to have proved that the disease is transmitted by the bite of the infected special mosquito and is not transmitted by fomites arising from infected bedding or clothing. But although these experiments abundantly prove that soiled garments and bedding which have been used by patients suffering from yellow fever will not communicate the disease by contact, it has not yet been satisfactorily proved that a stinging insect may not communicate the infection by carrying the infective principle from the fæces, urine, and vomit. The insect *may* inoculate a patient with the infection derived from the fæces of the patient.

## FIRE DRILL.

THE piteous holocaust of school children in the United States which shocked the humanity of Europe no less than of America at the beginning of this month must have given many school managers pause as to whether their own houses were in such order as to be secure from the occurrence of a like calamity. An interesting letter appeared in the *Times* of March 9th, under the signature "M. W.," which we quote in full as an excellent example of what ought not to be possible in any school, national or otherwise:—

> Two managers of a large London County Council school, numbering some 1100 children, felt it their duty to test the fire alarm bell last Tuesday morning. They found the bell handle hung in a cloak-room, which was locked up. It was further inclosed in a small cupboard, which was locked up (the caretaker had the key, but in his house, not on his person). Finally, the bell was rung twice, after which it jammed and refused to sound. The boys and girls were in the playground and in splendid order within two minutes, although the school is built in three floors and staircases had to be negotiated. The infants made their exit in 2 minutes 38 seconds, and showed a disposition to tumble over each other, which made it clear that the risk to them would not be the fire, but the danger of falling and being fallen upon. It should be added that the bell was not heard at all in one infants' class-room (and small wonder, considering the character of its summons) and that 30 children and one teacher continued their lesson comfortably and must be regarded now as cinders. These facts (the last especially) may be interesting to other school managers with energies to spare.

This is an instance of what happens only too often in public institutions. The means of combating fire are provided, fire drill is started amongst its inmates who take up the new amusement with enthusiasm, particularly if they happen to be boys, and the parades give some of them the weekly chance of a mad career from an upper window to the ground in a canvas tube or some such life-saving device. This is kept up for a year perhaps, at fairly regular intervals, until to those responsible for the organisation of the parades begin get a little slack; they have called "Wolf" so often but have never seen the gleam of his eye. In another year's time the escape-chute is reposing in an attic, where the rats find it an excellent means of keeping their teeth sharp; the fire-hose is coiled up in stiff and dusty circles in a dark corridor, and there is a new man in power who is not quite sure where the hydrant is; he has never thought about asking and no one has ever troubled to tell him. Then comes a fire and the papers are full of the "lamentable occurrence." This is the dark side of the picture but it is fair to say that it is not universally true. At sea, for instance, the danger is properly apprehended and on passenger ships, at least, the weekly fire drill is part of the routine duty of the crew. The efficiency of this was shown last week near New York harbour, when 600 passengers were safely transferred from the deck of the *Providence*, which had caught fire, to the *Richard Peck*, which she had summoned by wireless telegraphy, and afterwards the crew of the *Providence* fought and mastered the fire. Again, certain manufacturing firms are not heedless of the same paramount precaution, a proof of which was given by the 80 men and women employed on the premises of a large scent manufactory in the Blackfriars-road, on the occasion of a recent fire which burnt it to the ground, as was only to be expected when it had once started in a house stocked with such an inflammable commodity. There had been systematic fire drill, however, and in a few minutes all the employees were out in the street with no damage to life or limb, a consummation upon which the owners, Messrs. John Gosnell and Co., are to be congratulated warmly. In country districts also there is an urgent need of fire discipline; only the day before this factory was burnt the chapel of Sir Archibald Macdonald's seat in Hampshire had caught fire and the safety of the house adjoining was threatened, but the exertions of the household brigade, headed by its master, prevented the destruction of the greater part of his historic home. The neglect of some such provision in large houses in isolated country districts is almost criminal and their owners should be encouraged to maintain their "brigades" in a state of efficiency after this example of the valuable services which they are able to render.

## THE REDUCTION OF LIQUIDS IN THE TREATMENT OF HEART DISEASE.

AT a meeting of the Académie de Médecine of Paris on Feb. 11th M. H. Huchard and M. Ch. Fiessinger communicated an important paper on the reduction of the liquids taken in the treatment of heart disease. In the treatment of obesity and the circulatory troubles dependent on it this method was recommended in France by Dancel in 1863, in England by Chambers a year later, and in Germany in 1885 by Oertel. After having had considerable vogue the method fell into disuse. It met the same fate as other methods, such as blood-letting, which have been employed too systematically and not according to indications. M. Huchard and M. Fiessinger have found that reduction of liquids is useful in the treatment of disease of the heart, particularly in that due to arterio-sclerosis. In certain conditions they think that this reduction is urgently necessary in order to save the patient from imminent death. The condition to which they particularly refer is the dilatation of the heart which is observed in valvular disease, principally in mitral regurgitation complicated by aortic regurgitation, such as occurs in great drinkers of beer (*Bierherz*). No doubt in the heart disease due to arterio-sclerosis it is necessary to prescribe milk largely and liquids in abundance to promote diuresis and elimination of toxins. But when cardiac dilatation increases and becomes permanent, when the damming of the blood in the veins is irreducible, diuretic drinks cause little elimination; they remain in the tissues and surcharge the blood, raising the venous tension and immobilising more and more the heart in a state of extreme dilatation. Thus the dyspnœa, œdema, and other symptoms of cardiac failure, against which digitalis and other remedies are powerless, are increased. The ill-results of taking too much fluid are also illustrated by the fact that a latent affection of the heart is sometimes revealed after immoderate imbibition such as occurs in those who drink beer in large quantities. The older the patient the greater the danger, for the myocardium loses its tone, the much-altered "peripheral heart" can no longer come to the assistance of the "central heart," and the kidneys become more inadequate. It is then necessary to follow the great principle of cardiac therapeutics: relieve the heart in order to facilitate its work. The practitioner should not only observe the quantity of urine eliminated in the 24 hours but also the quantity of fluid ingested. He should also note the weight of the patient. If that rapidly increases the occurrence of interstitial or visceral œdema,

which often precedes peripheral œdema, is indicated. One day the dropsy increases rapidly in extent or intensity, the heart becomes still more dilated, the abundance of liquid taken causes a diminution in the excretion of urine, and renal and cardiac remedies fail totally. The dyspnœa becomes intense, the insomnia becomes continuous, the œdema invades all the tissues, and life is endangered. Then reduction of the liquid taken is urgently necessary and, strange to say, is a powerful means of diuresis. After the administration of one or two purgatives the reduction allows the elimination of the liquid infiltrated into the tissues and restores the contractility of the heart. Similarly, in certain cases of acute hydronephrosis one of the best means of diminishing the tension in the sac and of re-establishing the secretion of urine is almost completely to cut off liquids. In the cases of acute cardiac dilatation described M. Huchard and M. Fiessinger recommend the prescribing for the first day of 1500 grammes of liquid (500 grammes of milk mixed with 1000 grammes of water), of which a Bordeaux glass full is to be taken every hour. On the second and third day half the quantity is taken; from the fourth day the quantity of solid food taken is also reduced. At the same time small doses of digitalin—a tenth of a milligramme—are given for ten successive days, which is then interrupted for five days and again repeated for ten days. Thus the danger of a cumulative effect is avoided. Simultaneously 100 centigrammes of theobromine, which is a dechloridising agent, are also given. On the first day the diuresis is not always great; the quantity of fluid excreted may be 1600 or 1700 grammes. On the following days the quantity increases to 2000, 2500, and 3000 grammes; from the fifth day it falls to 1700 or 1600 grammes, and continues at this level for from five to ten days according to the extent of the œdema. The dyspnœa and insomnia disappear in a few days. In some cases it may be necessary to evacuate pleural or peritoneal effusions or to relieve hard œdema of the legs by scarification. If diuresis does not appear, and there are no peripheral obstacles to the circulation, such as have just been mentioned, the prognosis is grave. An attempt may then be made to stimulate the heart by injecting a quarter of a gramme of caffeine once or twice daily.

## TUBERCULOUS MEAT.

ON March 8th at Stratford Edward Macer was summoned as the owner of premises in Pearson-road, on which was found a carcass of beef intended for the food of man but unfit for that purpose. The evidence showed that Mr. J. G. Forsyth, assistant sanitary inspector, found the carcass, which showed signs that the animal had suffered from tuberculosis, on the defendant's premises; the "offal" had been removed from it. Mr. J. F. Taylor proved the presence of the disease and the defendant said that he had not slaughtered the animal and did not know it was diseased before it was examined. He was fined £10 and costs, with the alternative of two months' imprisonment. In the other case the penalty was still heavier. It was heard before Alderman Sir George Smallman at the Guildhall, where Thomas Rea, jun., a butcher of High-street, Godalming, was summoned on the information of Sanitary Inspector Down as being the person to whom belonged three quarters of beef which on Feb. 29th were deposited in the Central Meat Market for the purpose of sale and afterwards condemned as unfit for the food of man. Mr. T. G. Vickery, prosecuting for the public health department, said this was the first time that any complaint had been made against the defendant. The meat had formed the greater part of the carcass of a heifer for which its owner had given £17 in the Guildford cattle market. The slaughter-man had called his attention to certain ugly signs about the meat, but these had been "trimmed" away. Dr. W. Collingridge said that the signs of disease were too evident to have passed unnoticed. Mr. Ricketts, who appeared for the defendant, admitted that he had displayed much carelessness but asked the court to acquit him of having wilfully sent tuberculous meat to the London market. The bench took another view of the case, however, and fined Rea £50 and 6 guineas cost. We have no doubt that both these defendants thought that they were very hardly used, but this is a matter in which the profit of the individual must be made subsidiary to the health of the community, and we hope that others besides themselves will learn wisdom from the results of these prosecutions.

## ACUTE PULMONARY ŒDEMA.

Dr. W. T. Shanahan, one of the assistant physicians to the Craig Colony for Epileptics, has sent us a reprint of a paper which appeared in the *New York Medical Journal* of Jan. 11th upon acute pulmonary œdema as a complication of epileptic seizures. The onset of the complication is sudden and produces in all cases a serious condition with occasionally a fatal termination. Dr. Shanahan says that in all grand-mal and in many petit-mal seizures there is a more or less marked increase in the secretion of mucus along the respiratory passages with the subsequent frothing at the mouth which is commonly seen in such patients. In some cases there may be no actual increase but simply an accumulation in the mouth of the normal amount which is then forced from between the lips during the accentuated respiratory air currents which accompany the stertorous type of breathing. In a few cases this great outpouring of mucus becomes so marked that the patient is in actual danger of being drowned in his own secretions, this acute process producing a marked pulmonary œdema. The acute œdema should not be confounded with the frequently occurring terminal œdema seen in many epileptics, as well as those suffering from the many other diseased states. In a large proportion of the necropsies on patients who had died at the colony a terminal pulmonary œdema has been found. The patients observed have been in fairly good physical condition preceding the occurrence of one or more grand-mal seizures. During the stertorous period of the isolated seizure, or perhaps the second or third in a series of seizures, there suddenly appears an outpouring of mucus, perhaps blood-tinged, from the mouth and nose, with a marked cyanosis and dyspnœa occurring concomitantly. As to etiology, some of the cases occurred in patients who had an affection which in all probability acted as a predisposing cause but would never have been sufficient to bring about the œdema unless the circulatory changes accompanying the epileptic seizure had been added to it. Of the 11 cases reported in the above paper seven patients recovered and four died. In three patients the condition recurred and in one of them the second attack observed was fatal. Dr. William H. Welch's theory, says Dr. Shanahan, of the cause of pulmonary œdema is as follows:—

> A disproportion between the working power of the left ventricle and of the right ventricle of such character that, the resistance remaining the same, the left heart is unable to expel in a unit of time the same quantity of blood as the right heart.

An enfeebled action of the left ventricle rather than a spasmodic action is likely to be the cause of this disproportion under the conditions in which pulmonary œdema ordinarily occurs. As a consequence of this there is soon a large excess of blood in the pulmonary vessels. The œdema is one usually associated with venous hyperæmia. An increase of the intracapillary pressure is brought about in the lungs and perhaps a decrease of the extracapillary pressure or both. The asphyxia accompanying the seizure is caused by the local stagnation of the blood

stream and in turn causes an increase in the permeability of the endothelial wall of the capillaries of the lung. As to treatment the most important procedure has been found to be a change of posture so as to aid in draining the respiratory passages of the great excess of mucus. If necessary, the patient should be turned over the side of the bed, removing all mucus from the mouth, nares, and pharynx. The mouth should be opened with a gag or with the fingers protected by a towel. In addition, much benefit has been obtained by dry-cupping and the use of atropine and strychnine hypodermically. Venesection is of value in full-blooded patients. Adrenalin was used without apparent result. Dr. Shanahan's paper concludes with details of 11 cases. In view of the communications which have recently appeared in our columns upon the subject in question this paper is of great interest.

## THE HOTEL PREMIUM ON WINES.

WE have more than once commented upon the exorbitant prices which the proprietors of hotels, restaurants, and other places demand (and obtain) from the public for wines. The prices charged are out of all proportion to the value of the wine, and even at the high price paid the wine is often of indifferent quality, if, in fact, it is not actually rubbish. This matter is of more than ordinary interest, because we are convinced that this method of trading is very largely practised and is responsible in a considerable measure for the increased consumption of spirits which are now so often employed to form the basis of the alcoholic beverage consumed with the meal. Whatever views may be held about the use of alcoholic beverages there can be little doubt that the replacement of sound wines by mixtures of spirit and water (plain or aerated) is in general a retrograde step from a health point of view chiefly because in this way the chances of imbibing more alcohol in a given volume of fluid are greater than when a sound light wine is chosen. It is pretty certain that the man who drinks diluted whisky or "whisky-and-soda" with his meals consumes more alcohol at a sitting than the man who chooses claret or hock. There are, of course, individual cases in which the use of wines is contra-indicated but these represent the few acting under medical advice and not the majority. It is admitted by most people that a "whisky-and-soda" or two go further than a pint of claret from the point of view of a stimulant, while under the present objectionable *régime* of charging highly inflated prices for wines the spirit mixture is decidedly cheaper. The public are silly enough to submit to this taxation at the hands of a comparative few and to risk their health also. And yet the public, if they chose, could alter matters completely if only they would realise the true state of affairs and if they would make up their minds to show their resentment in a practical way. Signs, however, are not wanting that the simple method of leaving the excessively priced wines severely alone is gaining ground. The result, of course, is a falling off in the sales of wines, which reacts on the shipper although he is not the real offender. While it is, therefore, not fair to him the hotel proprietors fully deserve the disaster which their own action threatens to bring upon their heads. In the language of the Stock Exchange there is at the present time a "slump" in champagne, which is, no doubt, being felt by the champagne shippers very severely. They complain that the consumption of spirits with aerated water is increasing and that good light sparkling wines are losing favour simply and solely because of the large profits which the hotel proprietors attempt to extract from the public. When a man knows perfectly well that he can buy a bottle of a good brand of champagne at the rate of not more and often less than 10*s*. a bottle, is it likely that he is going to pay for a bottle of that same wine 20*s*. or even 25*s*. because it is the hotel price? The trade is willing, we understand, to reduce the price of champagne by 30 per cent. if only the hotel proprietor will retail it at a reasonable profit. We are convinced, as we have said again and again, that a supply of good, light, cheap wines augurs well for temperance and the *morale* of the nation when the growing and pernicious habit of drinking ardent spirits is considered. It is to be hoped that the step which the champagne shippers propose to take will not be forgotten by the public in their dealings with those who cater for them.

## THE USE OF CYANIDE OF MERCURY WITH BORAX IN SURGICAL PRACTICE.

Dr. Paul Lemaire in a recent number of the *Répertoire de Pharmacie* draws attention to the advantages of a mixture of cyanide of mercury and borax in surgical practice. Cyanide of mercury is less caustic and less irritating than the perchloride and does not coagulate organic matter. Dr. Maréchal of Angers showed in 1896[1] that steel, copper, and nickel instruments are not attacked when immersed in 2 per cent. aqueous solutions of various sodium salts, including borax and the carbonate, bicarbonate, and benzoate of sodium. The addition of borax to cyanide of mercury has been tried also in obstetric work. For convenience these antiseptics may be compressed in the form of tablets containing suitable colouring matters to give the resulting solutions a distinctive appearance. Dr. Lemaire recommends a combination of mercuric cyanide 1 gramme, borax 2 grammes, potassium chromate 0·075 gramme, and fluoresceine 0·001 gramme. One of these tablets dissolved in a litre of distilled water yields a convenient antiseptic solution.

## NUISANCE FROM FLIES.

WE have already had occasion to refer more than once to the evidence which has been collected by different observers as to the part taken by flies in the dissemination of disease. It has been proved by actual experiment than these insects can carry on their feet micro-organisms of all kinds with which they are brought into contact, and it has been suggested that enteric fever and summer diarrhœa especially are maladies liable to be spread in this way. A very interesting report presented to the London County Council by the medical officer (general purposes), Dr. W. H. Hamer, deals with an allied problem, that, namely, of the effect of accumulations of refuse matter in leading to increase in the number of flies found in their neighbourhood. Dr. Hamer's investigations were conducted with as much precision as the nature of the task admitted, certain centres being chosen at which rubbish was allowed to accumulate and observations being made as to the numbers of flies caught in typical dwelling-houses situated at varying distances from these foci of attraction or rather of dissemination of flies. The results expressed in figures to which careful methods of correction were applied, and embodied in various graphic curves, point strongly to the importance of refuse heaps as breeding places for flies and give a vivid picture of the extent of the nuisance created by these insects. Of all refuse matter apparently horse dung is the most directly implicated but doubtless other materials also serve as nurseries for flies. It was unfortunate, from the point of view of these experiments, that last summer was exceptionally cold, so that it prevented accurate observations being made as to the possible connexion

[1] Répertoire de Pharmacie, 1896, p. 160.

between the number of flies and the incidence of summer diarrhœa. Dr. Hamer refrains from drawing any definite conclusion on this point but he notes that while there is a curiously close agreement between the curve obtained from an estimate of the numbers of flies prevalent and that of the incidence of diarrhœa, yet it is not improbable that the true explanation of this "concomitant variation" lies in the dependence of both phenomena alike on the temperature of the soil. They are therefore not necessarily related as cause and effect. The amount of labour which these observations involved must clearly have been very great and Dr. Hamer is to be congratulated on the work which he has done. Such records should strengthen the hands of local authorities in dealing with accumulations of refuse within their districts, though it would appear from the report before us that while the London County Council was laudably endeavouring to carry out its by-laws on the subject some of the subordinate councils were among the offenders against the laws of health.

## THE BRITISH ASSOCIATION: THE MEETING AT WINNIPEG.

THE Council of the British Association for the Advancement of Science has nominated Professor J. J. Thomson, F.R.S., Cavendish Professor of Experimental Physics in the University of Cambridge, to be President of the meeting of the Association which is to be held at Winnipeg next year. The investigations carried on by Professor Thomson in the Cavendish Laboratory, and by the distinguished men of science who first worked under him and received inspiration from his researches, laid the foundation for the new views held by chemists and physicists as to the electronic constitution of matter and the remarkable properties of radio-active substances. In 1894 Professor Thomson was awarded one of the Royal medals of the Royal Society and to this was added in 1902 the Hughes medal in recognition of his contributions to the advancement of electrical science, especially in connexion with the phenomena of electric discharge through rarefied gases. Two years ago he was the recipient of the Nobel prize for physics. It is understood that provision will be made by the Canadian Government in the estimates for the coming financial year for a grant of $25,000 (£5000) by the Dominion Parliament towards the expenses of the association's visit to Winnipeg. The city of Winnipeg itself proposes to make a grant of $5000 (£1000). The week of the meeting will probably be from August 25th to Sept. 1st, 1909.

## OINTMENT BASES.

AN article has recently been published[1] by Mr. Robert Tocher on ointment bases. The official ointments are not in all cases satisfactory. A perfect ointment should be of the consistence of butter at ordinary temperatures, so that it may spread on the skin or on lint by means of a spatula. It should be plastic, free from grittiness, and should not be liable to become rancid. Further, it should mix without decomposition with powders and with oily, aqueous, and spirituous solutions. Mr. Tocher has found that these requirements are met by mixing wool fat and soft paraffin in equal proportions. When anhydrous wool fat is used the basis melts between 40° and 42° C., and when hydrous wool fat is employed the basis has a lower melting point—viz., from 38° to 40° C. The white paraffin ointment of the Pharmacopœia melts at from 46° to 47° C. For ointments containing 50 per cent. of methyl salicylate Mr. Tocher recommends a basis prepared by mixing equal parts of anhydrous wool fat and yellow wax or hydrous wool fat and white wax. These formulæ will doubtless be found of service in prescribing various medicaments in the form of ointments. It should be noted that wool fat is the most penetrative of all the ointment bases. On this account it is inferior to the paraffin ointment of the Pharmacopœia in cases where protection and not absorption is required.

[1] Pharmaceutical Journal, Jan. 25th, 1908, p. 85.

## TUBERCULOSIS IN CATTLE.

A MEETING was held at Norwich recently of much interest to those concerned with tuberculosis in cattle, which was the subject discussed at the annual gathering of the Eastern Counties Veterinary Medical Society. The precise subject for discussion was "Tuberculosis in Cattle so far as the Disease Affects the Milk-supply." Mr. Villar, F.R.C.V.S., of Harrow, in introducing the discussion, pointed out that farmers generally and those in rural districts engaged in the milk trade did not recognise the position almost of peril in which they stood from legislative enactments likely to come into force if they did not bestir themselves to counteract the extreme views put forth by some authorities. According to the speaker there were authorities who had declared that it would be no very difficult task wholly to eliminate bovine tuberculosis in a comparatively short period, provided that the tuberculin test were compulsorily and universally applied and if all reacting animals were forthwith destroyed. Mr. Villar gave it as his opinion that the carrying into effect of such a scheme was to all intents and purposes impracticable. It had been computed by men best qualified to pass judgment that something like 30 per cent. of the dairy cows of this country would react to the test, and the slaughter of such a number of beasts would involve an enormous loss to the community. It was suggested that by the aid of the tuberculin test applied carefully the disease might be diagnosed in cattle with comparative exactitude. The destruction of diseased cattle when necessary isolation of other beasts less diseased, and thorough disinfection of buildings which had been occupied by infected animals were the measures of precaution recommended. By methods of this description it was thought that tuberculosis in cattle might be brought under control, but the object would only be attained at the expense of much time and money. The question of expense was the point upon which most stress was laid by the subsequent speakers, the majority of whom held the view that the owner of condemned cattle should not be called upon to bear the whole expense. The scheme of voluntary and legislative control in force in Norway, Sweden, and Denmark appeared to commend itself favourably to many as best calculated to meet the situation in this country. In case of slaughtering a diseased animal in those countries 25 per cent. of the value of the beast was paid as compensation to the owner if the carcass was passed for food and 75 per cent. if the carcass was also condemned. A point of great interest brought out at the meeting was that dairy farmers generally appear to appreciate fully the value of fresh air to cows. Several speakers stated that they never housed their cows and that the animals were found to be most healthy in their outdoor life, while all were quite agree that cleanliness was an essential feature in the management of a dairy farm. A proposition was moved and carried—

That this meeting is of opinion that clinical tuberculosis should be scheduled under the Contagious Diseases Animals Act, 1894, and that compensation should be paid in cases of slaughter.

It is fairly certain that in the near future measures will be introduced into Parliament drawn up with the view of insuring a purer milk-supply than has been hitherto the rule. A Bill dealing with tuberculous cattle is soon to be introduced by the President of the Local Government Board, and the London County Council has applied for powers to exclude dirty or contaminated milk from the area under its supervision.[1] It should not,

[1] THE LANCET, March 14th, p. 826.

however, be forgotten that, so far as rural districts are concerned, the Dairies, Cowsheds, and Milkshops Order of 1888 when enforced insures to some extent the purity of milk. Unfortunately in many country districts this Order is more or less a dead letter. Nevertheless, dairy farmers themselves are beginning to recognise the necessity for putting their houses in order as the public seem likely to insist that wholesome reforms shall be brought about in regard to the methods in vogue of producing, transporting, and distributing milk. The result of the meeting of the Eastern Counties Veterinary Medical Society at Norwich is a healthy manifestation of this spirit, even if we take into account the manifest revolt against counsels of perfection in stamping out tuberculosis.

## THE LATE DR. HENRY ROBERT SILVESTER.

THE recent death of Dr. Silvester has removed a man whose name is very widely known in connexion with the method of performing artificial respiration which he suggested. He was the second son of the late Dr. T. H. Silvester of Clapham and received his education at King's College, London, of which he became subsequently an Associate. He qualified M.R.C.S. Eng. in 1853, took his M.B. at the University of London in the following year, and his doctorate in 1855. In 1861 he became an honorary medical assistant to the Royal Humane Society which in 1883 awarded him the Fothergill gold medal, of the value of 50 guineas, for his valuable researches and discoveries in the method of inducing respiration in cases of apparent death from drowning or asphyxia, chloroform, and still-birth, and there can be no doubt a very large number of persons owe their lives to the successful application of his treatment, more than 500 cases having been reported to the society during the last ten years. The "Silvester method" has appeared in every annual report from 1863 to the present year. He joined the committee in 1880 and was a member of that body till his death. He was a Hunterian scholar in human and comparative anatomy of the Royal College of Surgeons of England and later was physician to the Clapham General Dispensary. Besides his important work on the discovery of the physiological method of treating apparent asphyxia he published works on "The Physiological Method of Treating Incipient Consumption" and "The Nature of the Spleen and Vermiform Appendix from an Investigation of the Lateral Homologies of the Liver, Stomach, and Alimentary Canal." He also wrote on Teratology and contributed to our columns in 1883 an ingenious suggestion for the prevention of drowning; this was that people in danger of drowning should puncture the mucous membrane of the alveolo-buccal fold and by self-inflation produce subcutaneous emphysema of the neck and thorax sufficient to buoy them up in the water. He had demonstrated this principle on small animals but so far as we know it has not been adopted in human emergencies. Dr. Silvester is survived by his wife, Caroline Frances, daughter of the late Rev. F. Goode; he leaves no children.

## MEANS EMPLOYED FOR THE DESTRUCTION OF RATS ON SHIPS.

IN the *Bulletin des Sciences Pharmacologiques* for January M. Edmond Bonjean discusses the various methods that have been tried for destroying rats on ships. In 1903 the International Conference, meeting at Paris, indicated three processes: (1) an admixture of sulphurous acid with a small quantity of sulphuric acid; (2) a mixture of the monoxide and dioxide of carbon; and (3) carbon dioxide. Of these methods the first is destructive to insects and bacteria as well as to the rodents. At Hamburg the toxic gas consists of carbon monoxide, 5 volumes; carbon dioxide, 28 volumes; and nitrogen, 77 volumes. This process effectually kills the rodents without injuring the merchandise carried on vessels but it has disadvantages. It requires costly apparatus and a prolonged exposure to the gases—not less than 24 hours. Further, it is dangerous to man, while it does not destroy insects. The use of carbon dioxide alone has been abandoned owing to its high price. In France preference is given to a mixture of sulphurous and sulphuric acid gases, obtained by the free combustion of sulphur in air, but M. Bonjean's experiments have shown that sulphurous acid alone, in the proportion of 60 to 80 grammes of the gas per cubic metre, destroys rats almost as quickly without exciting so destructive an action upon merchandise. It is important to avoid humidity in the air as much as possible and to drive out the residual gas after the rats have been killed. In actual practice the gas may be produced by the Marot apparatus, using 70 grammes of liquefied sulphurous acid per cubic metre, or by the Clayton or Gauthier-Deglos apparatus, using 35 grammes of sulphur per cubic metre. After two hours the remaining gas is removed by ventilators and the dead rats are burned or thrown overboard.

## MUNICIPAL DENTISTRY.

IN a pamphlet recently issued by the Medical Officers of Schools Association on the care of the teeth Mr. C. Edward Wallis gives an account of the methods that are being employed in certain cities of the German Empire to deal with the question of dental disease in school children. He visited the cities of Strasburg, Mulhausen, and Darmstadt. In the first city, which contains about 150,000 inhabitants, the authorities have set apart special rooms on the first floor of the children's polyclinic. The accommodation consists of two surgeries, one with two dental operating chairs and the other with one chair, besides a waiting-room to accommodate about 60 children. The work is carried out by two dentists, the senior of whom receives £150 per annum and the junior £115 per annum, both with an annual rise of £15. They devote their whole time to the work, the hours being 8.30 to 12 A.M. and 2.30 to 6 P.M. The children in the schools are inspected by the senior officer who visits each school in turn, giving general instruction on the use and care of the teeth. Some idea of the amount of work that is accomplished may be gained from the figures for the month of April, 1907, in which 551 children were inspected, 831 teeth stopped, and 505 teeth extracted. Altogether, since the opening of the school dentistry in 1902, no less than 157,000 children have been examined. At Mulhausen, a manufacturing town with about 100,000 inhabitants, the accommodation consists of a somewhat small operating-room with one dental chair and an electric engine, in addition to a small waiting-room. The staff consists of one dentist only, who devotes his whole time to the work and who works only during the hours when the children are not in school—viz., 8 to 9 A.M., 11 to 12 A.M., and 4 to 6 P.M. The dentist is paid £180 per annum and no private practice is allowed. In addition it is part of his duty to give lectures on dental hygiene to the teachers. At this clinic last year 10,000 children were seen, the average cost working out at about 6*d*. per head. At Darmstadt the institution is also provided and supported by the municipality, the work being carried out by a junior practitioner who is paid at the rate of £30 per annum. He is allowed to carry on his own practice and attends every day for one hour only. The above details are interesting as showing the methods which are being adopted in Germany for the treatment of dental disease in school children. The question concerning the teeth of the poor of London, although just as important, is nevertheless a far bigger one but there

seems hope now that the County Council is fully alive to the importance of the subject and is anxious to arrive at an efficient means of dealing thoroughly with the problem.

## A FRIEND OF THE CHILDREN.

IT is within the province of a journal concerned with the health of the nation to pay a tribute to the memory of the founder of the National Society for the Prevention of Cruelty to Children, for a happy childhood goes a long way to securing a healthy manhood. The Rev. Benjamin Waugh, the Congregationalist minister who has recently passed away, was a man who devoted his whole life and remarkable energies and administrative abilities to the cause which owes its conception and birth to him and in a very large measure its successful career. Nine years ago a public inquiry was made into the affairs of the society at the instigation of its founder and the resulting report informed the charitable that they might contribute to the society's funds "in the full assurance that the money they supply will be judiciously employed in furthering the sacred cause of protecting the children of the community and rendering the condition of their lives brighter and happier." The society was founded in 1884 with Mr. Waugh as its honorary but very active secretary; he had had much previous experience amongst the poor children of Greenwich, where he was very successful in dealing with boys charged with "first offences" and starting them on a decent livelihood. He had also been a member of the first School Board, to which he was elected in 1873. There is no need to rehearse the good deeds of the National Society for the Prevention of Cruelty to Children, as it has won for itself the regard of all classes, conspicuously headed by our Royal Family, but we may say that it has dealt with over 380,000 cases of cruelty to children and has always directed its efforts to make the offending parents see the wrong which they are doing and to amend their ways, a method which has been so successful that the society has only felt constrained to obtain legal custody of some 1500 children since its foundation. Mr. Waugh was greatly concerned to impress upon the nation that the old idea that a man might do what he liked with his own children was a wickedly mistaken one and he worked to such purpose that it is hard to realise how strongly that heresy was held less than 50 years ago. His investigations amongst the poor were also largely responsible for the Criminal Law Amendment Act of 1885. He worked for the children to the last, until declining health forced him to resign three years ago the active directorship of the society.

THE Northern Counties' Branch of the Incorporated Institute of Hygiene will be inaugurated by Professor G. Sims Woodhead, professor of pathology in the University of Cambridge, on Monday, March 23rd, at 8 P.M. Professor Woodhead will be supported by Sir Isambard Owen, Professor Thomas Oliver, Professor George R. Murray, Mr. George Lunn, J.P., Mr. Johnstone Wallace, and Dr. J. C. Thresh (chairman of council of the institute), Sir George Hare Philipson being in the chair. The ceremony will be held in the Great Hall, Armstrong College, Newcastle, and further particulars can be obtained from Dr. G. H. V. Appleby, 210, Westmorland-road, Newcastle.

THE Department of Public Health of Queensland in a bulletin dated Feb. 8th states that for the week ending on that date there were 2 cases of plague reported, 1 in a girl, reported on Feb. 5th, and the other, a youth, aged 18 years, which was reported on Feb. 7th. On the Gold Coast during the week ending March 14th there were 4 cases of plague at Accra and 3 deaths. 8 deaths are reported near Adjumako, in the Saltpond district; other localities are free from plague. The Governor of Mauritius states that 2 cases of plague occurred during the same week and that there was 1 death.

## SOUTHERN *v.* LYNN THOMAS AND SKYRME.

WE publish below a letter numerously signed by leading and representative members of our profession, asking the general body of the profession to subscribe to a fund to defray the heavy legal expenses incurred by Mr. J. Lynn Thomas and Mr. H. E. Skyrme of Cardiff in defending the actions Southern *v.* Lynn Thomas and Skyrme. These actions excited much general interest at the time, but in view of the delay between them and the starting of the fund, a delay which has been unavoidable for various reasons, a short *résumé* of facts may be of interest to our readers.

### STATEMENT OF THE CASE.

On July 19th, 1904, Mr. T. A. Southern, a mining engineer of Cardiff, collided while riding his bicycle with a moving pony trap and was knocked down and dragged. He bruised the right side of his face, right wrist, hand, knee, and ankle, and sustained a subglenoid dislocation of the right humerus and a fracture to its surgical neck. He was attended by Mr. Skyrme who dressed his wounds and reduced the dislocation by the heel in the axilla method. Later in the day the case was seen by Mr. Lynn Thomas in consultation with Mr. Skyrme. In view of the fact that there was much hæmorrhage in the axilla and evidence of injury to the soft parts surrounding the fracture with obstruction of the venous and arterial flows Mr. Lynn Thomas advised that no further attempt to bring the ends of the bone into end-to-end apposition should be made and emphasised his opinion that on no account should splints be applied. He recommended that the elbow should be fixed to the side by a bandage and the wrist supported by a sling, so that the weight of the arm should act as the extending force and that massage should be used from an early date. Mr. Lynn Thomas told the plaintiff that an x ray photograph could be taken but that it would be an unnecessary expense in his opinion, as it would not affect the treatment which he recommended. The patient then decided not to have a photograph but 15 days later he changed his mind and a skiagram was taken which showed the lateral apposition of the broken ends. His relation with his medical advisers continued apparently satisfactory. Ever since the nineteenth day after the accident he had been able to sign letters and one month after the accident, he, with Mr. Skyrme's permission, travelled to Hamburg. The first warning which his medical attendants had that the patient was dissatisfied with his condition was in the form of a typewritten letter signed by the patient, received 23 days after the accident. In this letter Mr. Southern sent a tabulated series of medico-technical questions bearing on the condition of his arm. After his visit to Hamburg other letters followed, and finally maltreatment was definitely suggested and legal action threatened unless compensation was paid. This, of course, was negatived and the legal aspect of the case commenced.

On Dec. 6th, 1905, at the Cardiff Assizes, before Mr. Justice A. T. Lawrence, Mr. Southern brought an action against Mr. Lynn Thomas and Mr. Skyrme, claiming £2214 6*s.* 3*d.* damages for alleged negligence in their treatment. The defendants' case was put in the hands of the Medical Defence Union. After a four days' hearing the jury disagreed. In connexion with this first trial the plaintiff made three applications for a change of venue of the trial to London but these were refused.

Between the first and second trials the plaintiff made two more applications for change of venue, and this was finally assented to. The second hearing commenced in London on Nov. 22nd, 1906, before Mr. Justice Bigham and a special jury, and lasted until Dec. 3rd. The plaintiff's claim was for £2000 damages. The jury, after retiring three times and after being absent altogether for two and a half hours, brought in a verdict of £100 damages, one-twentieth of the amount claimed. This verdict carried with it the costs of the two trials. Stay of execution was granted for a fortnight to permit the defendants to give notice of appeal. This was done but the notice was subsequently withdrawn on account of Mr. Skyrme being in ill health, while Mr. Lynn Thomas was advised not to proceed with the appeal alone as he was joined with Mr. Skyrme in the former actions.

A further action was brought by the plaintiff to recover expenses of preparing his case for the appeal. This he lost.

The costs of the two trials may be thus tabulated :—

| | £ | s. | d. |
|---|---|---|---|
| Plaintiff's taxed costs and damages ... ... ... ... ... ... | 1696 | 13 | 10 |
| Amount paid by defendants over and above the amount allowed by the Medical Defence Union ... ... ... ... ... | 1250 | 0 | 0 |
| Miscellaneous legal expenses, including notice of, and preparation for, appeal and transcript of first trial, &c. ... | 250 | 18 | 5 |
| | 3197 | 12 | 3 |
| Amounts paid by the Medical Defence Union for both trials | 923 | 3 | 6 |
| | 4125 | 15 | 9 |

Some explanation may be asked for with regard to the expenditure of the £1250. In this sum are included the damages (£100) and the large extra cost of special counsel. The Medical Defence Union pays for *defence* including counsels' fees up to a limited amount. The Union does not, in the event of losing an action, pay damages or the costs of the other side. At the second trial special counsel were briefed at great expense, this expense being greater than anticipated owing to the protracted duration of the trial. The briefing of special counsel for the defendants at the second trial was due to the recommendation of leading surgeons who subsequently gave evidence on the defendants' behalf. It was naturally recognised that owing to the jury's disagreement at the first trial nothing should be left undone by the defendants to secure a verdict at the second. Further, the defendants recognised that the trial embodied a very serious issue for the profession at large, and felt that no effort or expense should be spared in conducting it to a successful termination. Numerous incidental legal expenses inseparable from the two protracted trials naturally added to the costs. Large as the sum of money is, the costs do not represent the total expense of the defendants; consideration must be given to monetary loss entailed by absence from home and by loss of professional work.

The mental worry associated with this protracted case must have been very great. Almost the whole work of getting together the large amount of expert evidence deemed necessary fell upon the defendants. The large number of surgeons who gave evidence at the second trial were personally seen by Mr. Lynn Thomas and the details of the case were explained to them after they had read the whole of the evidence taken at the first trial.

The sympathy of the profession with Mr. Lynn Thomas and Mr. Skyrme was shown immediately and in no uncertain way. Within one week after the second trial finished a dinner was given to them in Cardiff at which about 130 medical men were present. The expressions of entire confidence and approval of their conduct were unanimous and sincere. It now remains to give a practical proof of the feeling of the profession on the case and to make an effort to reimburse these gentlemen.

The letter which appears below is most representatively signed by gentlemen in all parts of the kingdom, and although this is the first public intimation of the movement the sum of £600 has already been collected towards the "Lynn Thomas and Skyrme Fund." The full list of those gentlemen who have already subscribed, with such additions as will be made to it in the intervening period, will be published in our next issue.

We cordially support this movement. It has already had a successful start, nearly one-fifth of the total amount being subscribed. No large sum need be given by any one individual, for the more individuals who subscribe the greater is the evidence of universal sympathy and support. Collective subscriptions from local medical organisations throughout the country will be particularly valued and arrangements are being made by which secretaries of medical societies, of divisions of the British Medical Association, and of like bodies will be approached with that object. Further, the feeling of the medical profession on the case is not confined to this country, and in a later issue we hope to publish a remarkable document in which leading surgeons in the United States, Canada, and on the continent of Europe express in no uncertain tone their opinion on the issues of the case.

### THE LETTER OF APPEAL IN SUPPORT OF THE LYNN THOMAS AND SKYRME FUND.

*To the Members of the Medical Profession.*

DEAR SIRS,—A fund has been started to defray the heavy legal expenses incurred by Mr. J. Lynn Thomas, C.B., F.R.C.S., surgeon to the Cardiff Infirmary, and by Dr. H. E. Skyrme of Cardiff, in defending the actions Southern *v.* Lynn Thomas and Skyrme.

The plaintiff had sustained a fracture-dislocation of the upper end of the humerus and, being dissatisfied with the result of the treatment adopted, claimed two thousand pounds (£2000) damages. The case was first heard at the Cardiff assizes in 1905 when the jury disagreed. A new trial took place in the King's Bench Division, London, in November, 1906, when the jury awarded the plaintiff one hundred pounds (£100) damages, the costs falling upon the defendants. The jury was apparently influenced by the view that the line of treatment which had been recommended could not be accepted as proper as it could not be quoted as being set forth in the recognised surgical textbooks in use in this country, although the evidence went to show that the measures prescribed are fairly well known and valued in our profession. The amount which Mr. Lynn Thomas and Dr. Skyrme have to pay is three thousand, one hundred and ninety-seven pounds, twelve shillings and threepence (£3197 12*s.* 3*d.*).

We feel that members of the profession all the world over will wish to show their sympathy with Mr. Lynn Thomas and Dr. Skyrme by uniting to support the fund which is now being raised to meet the above heavy legal expenses. We therefore appeal confidently to you to make a donation to the fund and we hope that the sum needed will be speedily subscribed so that our profession and the public alike may recognise our full sympathy with our colleagues and our entire agreement with their conduct of one of a class of cases the treatment of which must invariably be an anxious and difficult undertaking.—We are, yours faithfully,

HENRY DAVY, President, British Medical Association.
H. M. ELLIS, K.C.B., Director General, Royal Navy Medical Service.
ALFRED KEOGH, K.C.B., Director General, Army Medical Service.
J. M. COTTERILL, President of the Royal College of Surgeons of Edinburgh.
HENRY R. SWANZY, President, Royal College of Surgeons of Ireland.
JOHN WILLIAMS, K.C.V.O., Llanstephan, Carmarthenshire.
W. OSLER, Regius Professor of Medicine, University of Oxford.
EDMUND OWEN, Chairman of Council, British Medical Association.
ISAMBARD OWEN, Principal, Armstrong College, Newcastle-on-Tyne.
LAUDER BRUNTON, Consulting Physician, St. Bartholomew's Hospital.
ARTHUR CHANCE, Surgeon in Ordinary to Lord-Lieutenant of Ireland.
THORNLEY STOKER, Ex-President, Royal College of Surgeons of Ireland.
JAMES BARR, Lecturer on Clinical Medicine, University College, Liverpool.
G. LENTHAL CHEATLE, C.B., Surgeon, King's College Hospital.
A. W. MAYO ROBSON, Consulting Surgeon, Leeds General Infirmary.
J. A. MACDONALD, Physician, Taunton and Somerset Hospital.
J. MAGEE FINNY, Professor of Medicine, Trinity College, Dublin.
R. SHINGLETON SMITH, Emeritus Professor of Medicine, University College, Bristol.
A. FRANCIS DIXON, Professor of Anatomy, Trinity College, Dublin.
W. S. HAUGHTON, Surgeon, Steevens' Hospital, Dublin.

*Surgeons who Gave, or were Ready to Give, Evidence in the London Trial.*

G. H. MAKINS, C.B., Surgeon, St. Thomas's Hospital.
C. MANSELL MOULLIN, Surgeon, London Hospital.
A. A. BOWLBY, C.M.G., Surgeon, St. Bartholomew's Hospital.
ANDREW CLARK, Consulting Surgeon, Middlesex Hospital.
H. F. WATERHOUSE, Surgeon, Charing Cross Hospital.
A. PEARCE GOULD, Surgeon, Middlesex Hospital.
W. ARBUTHNOT LANE, Surgeon, Guy's Hospital.
H. W. PAGE, Consulting Surgeon, St. Mary's Hospital.
A. H. TUBBY, Surgeon, Westminster Hospital.
ROBERT JONES, Surgeon, Royal Southern Hospital, Liverpool.

*Professors of Surgery.*

WILLIAM MACEWEN, Regius Professor of Surgery, University of Glasgow.
CHARLES B. BALL, Regius Professor of Surgery, Dublin University.
J. H. NICOLL, Professor of Surgery, Anderson's College, Glasgow.
HECTOR CAMERON, Professor of Clinical Surgery, University of Glasgow.
FREDERICK PAGE, Professor of Surgery, University of Durham.
T. SINCLAIR, Professor of Surgery, Queen's College, Belfast.
R. J. PYE-SMITH, Professor of Surgery, University of Sheffield.
H. GILBERT BARLING, Professor of Surgery, University of Birmingham.
C. A. MORTON, Professor of Surgery, University College, Bristol.
C. YELVERTON PEARSON, Professor of Surgery, Queen's College, Cork.
JAMES SWAIN, Professor of Surgery, University College, Bristol.
HY. ALEXIS THOMSON, Lecturer on Surgery, School of Medicine, Edinburgh.

*Senior Surgeons of Provincial Hospitals.*

SINCLAIR WHITE, Royal Infirmary, Sheffield.
W. F. BROOK, General Hospital, Swansea.
J. RUTHERFORD MORISON, Royal Victoria Infirmary, Newcastle-on-Tyne.
A. HAMILTON, General Infirmary, Chester.

J. FURNEAUX JORDAN, Queen's Hospital, Birmingham.
G. H. PERCIVAL, General Infirmary, Southampton.
E. D. BOWER, General Infirmary, Gloucester.
T. K. CLARKE, The Infirmary, Huddersfield.
W. ALEXANDER, Royal Southern Hospital, Liverpool.
J. E. GARNER, Royal Infirmary, Preston.
J. D. HARRIS, Royal Devon and Exeter Hospital, Exeter.
J. PAUL BUSH, Royal Infirmary, Bristol.
B. THORNTON, Royal Sea Bathing Hospital, Margate.
F. C. LARKIN, Stanley Hospital, Liverpool.
W. H. JALLAND, County Hospital, York.
A. J. WILLIAMS, North Riding Infirmary, Middlesbrough.
WM. BERRY, Royal Albert Edward Infirmary, Wigan.
H. P. SYMONDS, Radcliffe Infirmary, Oxford.
CYRIL WACE, Royal Hants County Hospital, Winchester.
T. J. VERRALL, Sussex County Hospital, Brighton.
A. BOUTFLOWER, Salford Royal Hospital, Manchester.
R. H. LUCE, Royal Infirmary, Derby.
G. S. HATTON, North Staffs. Infirmary, Newcastle, Staffs.
P. RHYS GRIFFITHS, The Infirmary, Cardiff.
W. H. SHETTLE, Royal South Hants Hospital, Southampton.
L. S. LUCHAM, Salisbury Infirmary, Salisbury.
O. E. B. MARSH, County Hospital, Newport, Mon.
A. JACKSON, Salop Infirmary, Shrewsbury.
R. STIRLING, Royal Infirmary, Perth.
J. COTTER, N. Infirmary, Cork.
H. R. TOWNSEND, S. Infirmary, Cork.
J. WARD COUSINS, Royal Portsmouth Hospital, Southsea.

*Officials of British Medical Association in Wales.*

W. T. EDWARDS, Cardiff.
T. D. GRIFFITHS, Swansea.
D. J. WILLIAMS, Llanelly.
H. JONES ROBERTS.
E. D. EVANS.
W. B. CRAWFORD TREASURE.
E. EVANS.
W. D. STEEL.
J. ARNALLT JONES.
E. W. JONES.
E. J. MACLEAN.
W. J. GREER.
W. E. THOMAS.
HUGH JONES.
E. O. PRICE.
W. MITCHELL STEVENS.
A. HANSON.

*Representatives of Medical Societies in Wales.*

A. GARROD THOMAS, President, Newport Medical Society.
J. J. BUIST, President, Cardiff Medical Society.
D. E. EVANS, President, Swansea Medical Society.
D. J. JONES, President, Eastern Valleys Medical Association.

The honorary secretary of the fund is Mr. William Sheen, 2, St. Andrew's-crescent, Cardiff, to whom all subscriptions should be sent.

## MISS NIGHTINGALE, O.M., AND THE FREEDOM OF THE CITY OF LONDON.

IN the absence of Miss Florence Nightingale, due to age and infirmity, her relative, Mr. L. H. Shore Nightingale, received the freedom of the City of London on her behalf in the Council Chamber of the Guildhall on March 16th. Among those to whom invitations were sent to witness the ceremony were: the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, the Director-General of the Royal Navy Medical Department, the Director-General of the Army Medical Service, Sir Thomas Barlow, Sir Frederick Treves, Sir Dyce Duckworth, Mr. T. Bryant, Mr. and Mrs. L. H. Shore Nightingale, Mr. and Mrs. H. Bonham Carter, and other relatives of Miss Nightingale, the Council of the Nightingale Fund, former pupils of the Nightingale School at St. Thomas's Hospital, the trustees of the Nightingale Fund, representatives of the Red Cross Society, representatives of St. Thomas's and other hospitals, representatives of various nursing institutions, and 50 girls from the City of London School for Girls.

After the Town Clerk had read the order of the Court of Common Council offering the freedom of the City to Miss Nightingale,

The CITY CHAMBERLAIN (Sir JOSEPH DIMSDALE) delivered an eloquent eulogy of the great heroine and asked Mr. L. H. Shore Nightingale to accept the casket on behalf of Miss Nightingale. He said that it had often fallen to the lot of the Corporation of London to give expression to the views of the nation upon Imperial matters and to be the medium of conveying the feelings of the people towards those who had devoted their lives to the greatness of the State and to the well-being of mankind. Probably on no previous occasion had the Corporation more accurately gauged the desire of the empire than when the council unanimously passed a resolution expressive of appreciation of the great efforts of Miss Nightingale for the improvement of hospital nursing and management, whereby an incalculable amount of human suffering had been assuaged. They thus proclaimed for all time their appreciation of the work and lofty aims of one of the noblest characters in the history of the country. They that day endeavoured to repair, as far as possible, an omission of their predecessors, and lapse of time did not detract in the smallest degree from their wish to pay their tribute to the life work of this incomparable woman. Many present could only remember the Crimean war as children and only knew the incidents of those stirring times by hearsay or reading. Still less could they recall the memorable years of the life of Miss Nightingale anterior to 1854, during which, though unconsciously, she was preparing for her marvellous future in the cause of humanity. Born in Florence, the City of Flowers, she seemed to possess all that could possibly make for her happiness, yet from early days she seemed to be conscious that Providence had in store for her a great mission. As a child "Miss Florence, the squire's daughter," was known in every cottage, beloved by every cottager upon her father's estates in Derbyshire and Hampshire, while her sympathy and care brought comfort and support to many who were suffering and distressed even at this period of her eventful life. But as time went on and she was developing into womanhood it became evident that a far more comprehensive sphere of usefulness and benevolence was in store for her, and while she was possibly in doubt as to her next move in life she met that great philanthropist and authority upon nursing, Elizabeth Fry, who imparted to the young and enthusiastic woman her matured judgment, experience, and advice. Miss Nightingale shortly after visited the hospitals of London, Edinburgh, and Dublin, and made a lengthened and prolonged tour of the hospitals of France, Germany, and Italy; and so deeply moved was she with the necessity for immediate change in our district visiting and nursing system that she placed herself as a deaconess in the then best-known nursing institution in Europe, the Kaiserswerth, on the Rhine, near Düsseldorf, under the care of its founder, Dr. Fleidner. In those days nurses did not possess the knowledge, the aptitude, or the necessary tenderness to render real assistance and comfort to the sick. How different to those devoted women who gave their lives to this noble work in our day and who followed so conscientiously the objects aimed at by Miss Nightingale—the initiator and pioneer of our nursing system. Sir Joseph Dimsdale then referred to the events which led up to the Crimean War, the shock which the nation received when it heard from William Howard Russell, the fearless correspondent of the *Times*, of the terrible suffering among the troops, and the departure of Miss Nightingale for Scutari with 38 chosen fellow workers. The horrors which there met the "Angel Band," as Kinglake called them, said Sir Joseph Dimsdale, were appalling, but the greater the difficulties they had to meet the more determined were they to surmount them. Miss Nightingale herself was struck down with fever and for days hovered between life and death. The magnitude of their work of mercy could never be fully appreciated but by those whose suffering was assuaged, whose wounds received care and tender treatment, and by the dying, to whom comfort and consolation were imparted with love and true womanly sympathy by her whose very shadow seemed to consecrate the ground. No monumental structure, no guilded grave need ever inclose the clay of this noble Christian to perpetuate her name and her deeds. The fame of "Florence Nightingale" was imperishable. She would live in the hearts of coming generations as an example of true nobility of character, of utter forgetfulness of self; as one who achieved unsurpassed triumphs in acts of charity and love to her fellow creatures, always relying upon the guidance of a divine Providence. As we contemplated the life of "Florence Nightingale," said the speaker, we seemed to catch the words of the Great Master: "I was sick and ye visited me." "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me."

Mr. L. H. SHORE NIGHTINGALE, in reply, said that in the absence of his elder brother, now in India, to whom that pleasant duty would probably have fallen, he felt considerable diffidence in acknowledging, on behalf of Miss Nightingale, the very exceptional honour which the City of London had thought well to confer on her. There was no one there that day who regretted her absence more truly than he, but though she was not able to be present he could assure them that she was much gratified by the honour done to her. The City had shown a very true appreciation of Miss Nightingale's character in departing from their ancient custom and consenting to her request that the illuminated

resolution should be inclosed in an oaken instead of a gold casket and by devoting the sum of 100 guineas to the furtherance of those objects to which she had given her whole life.

Mr. BONHAM CARTER said that he was one of the very few persons now living who belonged to Miss Nightingale's generation. His family and that of Miss Nightingale were closely united, and he himself, as a boy, knew her well. Miss Nightingale was several years older than himself, and all the boys and girls were extremely attached to her, and nothing pleased her more than to be able to give pleasure to the young. He referred to various kinds of nursing work in connexion with which Miss Nightingale had been engaged and paid a high tribute to her sterling character.

Mr. Deputy WALLACE moved that the address with the answer of Mr. Shore Nightingale should be entered in the Journal of the Court, printed in the minutes of the proceedings, and sent to every member.

This was seconded and unanimously agreed to.

The following is the official description of the casket presented by the Corporation of the City of London to Miss Florence Nightingale:—

An oak box with bronze ornamentation of oak leaves indicative of "Endurance" enriched with a beautifully modelled figure representing "Charity." The lid carries a laurel wreath with the recipient's monogram in enamels and a scroll with an inscription referring to Miss Nightingale's generosity in establishing the Nightingale Homes at St. Thomas's and King's College Hospitals with the £50,000 granted to her by Parliament[1] for her services during the war, also the date of the commencement of her labours in the Crimea and her return from Scutari. On the front of the box are depicted the full arms and supporters of the City of London in bronze and enamels, and Messrs. Skinner and Co., the designers, have very strikingly introduced two finely modelled soldiers to represent the infantry and cavalry regiment of the time of the Crimea.

The reverse side has an ornamental panel containing the following inscription:—

PRESENTED
by the CORPORATION of the CITY OF LONDON,
with copy of RESOLUTION,
granting the HONORARY FREEDOM of the CITY
to
MISS FLORENCE NIGHTINGALE.
16th March, 1908.

The side panels carry modelled lions' heads as handles for the box.

## INTERNATIONAL CONGRESS ON TUBERCULOSIS.

THE Central Committee of the International Congress on Tuberculosis (to be held in Washington from Sept. 21st to Oct. 12th next) has announced the offer of the following prizes:—

I. A prize of $1000 is offered for the best evidence of effective work in the prevention or relief of tuberculosis by any voluntary association since the last International Congress in 1905. In addition to the prize of $1000 two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. Evidence is to include all forms of printed matter, educational leaflets, &c.; report showing increase of membership, organisation, classes reached—such as labour unions, schools, churches, &c.; lectures given; influence in stimulating local boards of health, schools, dispensaries, hospitals for the care of tuberculosis; newspaper clippings of meetings held; methods of raising money; method of keeping accounts. Each competitor must present a brief or report in printed form. No formal announcement of intention to compete is required.

II. A prize of $1000 is offered for the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes. In addition to the prize of $1000 two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

III. A prize of $1000 is offered for the best exhibit of a furnished house, for a family or group of families of the working class, designed in the interest of the crusade against tuberculosis. In addition to the prize of $1000 two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. This prize is designed to stimulate efforts towards securing a maximum of sunlight, ventilation, proper heating, and general sanitary arrangement for an inexpensive home. A model of house and furnishing is required. Each competitor must present a brief with drawing, specifications, estimates, &c., with an explanation of points of special excellence. Entry may be made under competitor's own name.

IV. A prize of $1000 is offered for the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor. In addition to the prize of $1000 two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

V. A prize of $1000 is offered for the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis. In addition to the prize of $1000 two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

VI. The Hodgkins Fund Prize of $1500 is offered by the Smithsonian Institution for the best treatise that may be submitted on "The Relation of Atmospheric Air to Tuberculosis." The detailed definition of this prize may be obtained from the secretary-general of the International Congress or the secretary of the Smithsonian Institution, Chas. D. Walcott.

VII. *Prizes for educational leaflets.*—A prize of $100 is offered for the best educational leaflet submitted in each of the seven classes defined below. In addition to the prize of $100 a gold medal and two silver medals will be awarded in each class. Each prize and medal will be accompanied by a diploma or certificate of award. Competitors must be entered under assumed names.

A. For adults generally (not to exceed 1000 words).
B. For teachers (not to exceed 2000 words).
C. For mothers (not to exceed 1000 words).
D. For in-door workers (not to exceed 1000 words).
E. For dairy farmers (not to exceed 1000 words).
F. For school children in grammar school grades (not to exceed 500 words).

In Classes A, B, C, D, E, and F, brevity of statement without sacrifice of clearness will be of weight in awarding. All leaflets entered must be printed in the form they are designed to take.

G. Pictorial booklet for school children in primary grades and for the nursery.

Class G is designed to produce an artistic picture-book for children, extolling the value of fresh air, sunlight, cleanliness, &c., and showing contrasting conditions. "Slovenly Peter" has been suggested as a possible type. Entry may be made in the form of original designs without printing.

VIII. A gold medal and two silver medals are offered for the best exhibits sent in by any States of the United States illustrating effective organisation for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

IX. A gold medal and two silver medals are offered for the best exhibits sent in by any State or country (the United States excluded), illustrating effective organisation for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

X. A gold medal and two silver medals are offered for each of the following exhibits; each medal will be accompanied by a diploma or certificate of award; wherever possible each competitor is required to file a brief or printed report:—

A. For the best contribution to the pathological exhibit.
B. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any State of the United States. Brief required.
C. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any State or country (the United States excluded). Brief required.
D. For the best exhibit of laws and ordinances in force June 1st, 1908, for the prevention of tuberculosis by any municipality in the world. Brief required.
E. For the society engaged in the crusade against tuberculosis having the largest membership in relation to population. Brief required.
F. For the plans which have been proven best for raising money for the crusade against tuberculosis. Brief required.
G. For the best exhibit of a passenger railway car in the interest of the crusade against tuberculosis. Brief required.
H. For the best plans for employment for arrested cases of tuberculosis. Brief required.

XI. Prizes of two gold medals and three silver medals will be awarded for the best exhibit of a workshop or factory in the interest of the crusade against tuberculosis. These medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

The following constitute the Committee on Prizes:—

Dr. CHARLES J. HATFIELD, Philadelphia, Chairman.
Dr. THOMAS G. ASHTON, Philadelphia, Secretary.
Dr. EDWARD R. BALDWIN, Saranac Lake.
Dr. SHERMAN G. BONNEY, Denver.
Dr. JOHN L. DAWSON, Charleston, S. C.
Dr. H. B. FAVILL, Chicago.
Dr. JOHN B. HAWES, 2ND, Boston.
Dr. H. D. HOLTON, Brattleboro.
Dr. E. C. LEVY, Richmond, Virginia.
Dr. CHARLES L. MINOR, Ashville, N. C.
Dr. ESTES NICHOLS, Augusta, Me.
Dr. M. J. ROSENAU, Washington.
Dr. J. MADISON TAYLOR, Philadelphia.
Dr. WILLIAM S. THAYER, Baltimore.
Dr. LOUIS M. WARFIELD, St. Louis.

HOSPITAL SUNDAY FUND AT BRISTOL.—Up to the present the sum of £1786 has been received as the result of the Hospital Sunday collections at Bristol for 1908. The committee at its meeting held on March 12th decided to distribute immediately the following sums to the medical charities:—Royal Infirmary, £522; General Hospital, £438; Children's Hospital, £162; Eye Hospital, £78; Orthopædic Hospital, £25; Lock Hospital, £15; and £5 to the Eye Dispensary.

[1] This statement is incorrect. The money was a national subscription. There is not a Nightingale Home at King's College Hospital and the School of Midwifery founded at that institution with a portion of the Nightingale Fund was abandoned soon after its inception.

# SANITARY REFORM IN INDIA.

## IV.[1]—SANITARY REPORTS.

### *North-West Frontier Province.*

Lieutenant-Colonel A. M. Crofts, C.I.E., I.M.S., the administrative medical officer, supplies the annual report of the sanitary administration of the North-West Frontier Province of India for the year 1906. The number of births registered during the year was the highest on record since the formation of the province, being 76,834, giving a birth-rate of 38·60 per 1000 of population, as compared with 70,269 and 35·4 respectively for the year 1905, which are the next highest recorded. The mean birth-rate for the preceding five years was 35·2. Whilst in 1905 the North-West Province stood sixth on the list of the eight provinces of India as regards the birth-rate per 1000 of population it is bracketed fourth on the list in 1906. This increase is due partly to the increased fecundity of the population and also to some extent to the increase in the number of child-bearing women since the census of 1901 and to the efforts made during the last five years to improve the registration of births. This province again alone shows an increased birth-rate on that of the preceding year.

With regard to the death-rate, this was 33·73 per 1000, as compared with 26·79 per 1000 in 1905, the mean death-rate for the last five years per 1000 having been 25·6. It was lower than that of any other province with the exception of Eastern Bengal and Assam and Madras. As will be seen further on, "fever" was the cause of the vast majority of deaths. The increased birth-rate of the year was unfortunately accompanied by an increased infantile death-rate, the death-rates per 1000 amongst children under one and between one and five years of age being 233·90 and 69·92 in 1906 as compared with 189·42 and 40·27 in 1905. With regard to the chief diseases that were responsible for the sickness in the province, the number of deaths reported under "fevers" during the year was 52,039, against 41,190 in 1905, the largest number (10,041) being registered in December and the smallest (2611) in August. The severe malarial epidemic from which this province, in common with the rest of Northern India, suffered exercised a marked influence on the vital statistics, the death-rate, as previously remarked, rising to 33·73 per 1000 from the average of the preceding five years 25·6 per 1000. These "fevers" were most prevalent from September to December. Dysentery and diarrhœa gave a death-rate of 0·29, against 0·28 per 1000 for the preceding five years, whilst the urban death-rate, 1·25, was more than six times as large as the rural, 0·20 per 1000. Respiratory diseases showed also an increased death-rate of 0·69 per 1000, the mean death-rate for the preceding quinquennium being 0·40 per 1000.

With regard to plague, this disease, which had hitherto been restricted to imported cases, now gained a footing in the Hazara district for a brief period at the end of the cold weather season, but rapidly disappeared. There were 41 cases in the Hazara district, two in Peshawar, and one in Dera Ismail Khan. The deaths were 40 in Hazara and one in Peshawar. The disease was imported by a man suffering from plague coming from Rawal Pindi; his relatives living in the same house contracted the disease which spread to three different villages. With the exception of the above cases, the Trans-Indus portion of the province maintained its immunity from epidemic plague but since the close of the year this disease has appeared in a more serious form and there is reason to fear that it has at last established a hold on the west bank of the Indus. Small-pox showed nearly double the number of deaths over those occurring in 1905, being 1127 as compared with 571. Finally, we note that no case of cholera was reported during the year.

The report concludes with sections relative to sanitary works undertaken or completed during the year and with an account of the principal defects found, and recommendations made, respecting them in the various towns of the province. Thus, there seems to be still much scope for improving the water-supply in the city of Peshawar.

### *Central Provinces and Berar.*

We come now to the annual sanitary report of the Central Provinces and Berar for 1906 furnished by Colonel P. A. Weir, I.M.S., the inspector-general of civil hospitals for the Central Provinces. This year was certainly a very unhealthy year, the total number of deaths registered being 516,613, or a ratio of 43·47 per 1000 of population, against 37·21 in 1905, the decennial mean being 32·44. This increased mortality was due in a large measure to the deaths from cholera and plague, whilst in other respects the delayed and heavy rainfall following on a comparatively dry year favoured deterioration of the public health. In this general unhealthiness the rice-growing districts did not share and some of them were also fortunate in escaping from the prevailing epidemics of cholera, small-pox, and plague which played so much havoc in many parts of the province. The non-epidemic mortality per 1000 of the population in the province was 37·85, against 35·34 in 1905. The increase was chiefly due to fevers and bowel complaints. Under the heading "fever," however, it is probable that many deaths due really to plague, measles, and influenza are also included. This increase in the number of deaths from non-epidemic disease in 1906 is a substantial proof that the year was an unhealthy one; with the exception of Balaghat, Raipur, and Bilaspur, the death-rate was above the decennial mean (32·44) in all the districts. With regard to sex, a proportion of 107·89 males to every 100 females died in 1906 but as the number of male births in recent years has considerably exceeded the number of female births naturally the number of male deaths exceed the number of female deaths during the earlier years of life. The highest mortality occurred during the months of August and September, being in the main due to malarial fevers, bowel complaints, and cholera, supplemented to some extent by respiratory diseases and plague. The lowest mortality as usual was in July. One satisfactory fact is apparent during the year under review—namely, a decrease in the infant death-rate from 286·44 per 1000 of 1905 to 279·54 per 1000 for 1906.

With regard to the chief diseases which were prevalent wise precautions were taken with regard to cholera with reference to the occurrence of the *Kumbh Mela* in Allahabad, the civil surgeon in December, 1905, being warned by circular through the Deputy Commissioners to look out for it. The province was, as it turned out, visited by an epidemic which in extent and severity exceeded anticipation and in Berar nearly attained the dimensions of the outbreaks in 1875 and 1900. Other predisposing causes to the epidemic of 1906 were in the second quarter of the year the drying up of wells and the consequent drawing of water from the polluted beds of streams, and the gathering together of large parties in connexion with the marriage season and with the harvest. Later in the year excessive heat prevailed during a break in the rain and being followed by an unusually excessive rainfall tended to facilitate the exacerbation which was noticed then, especially in the month of August. The measures by which the epidemic was met were the issue of cholera medicines and the disinfection of the water-supply with permanganate of potassium by specially deputed assistant surgeons and hospital assistants. The Chief Commissioner with respect to this last measure considers that not enough reference is made to the thoroughness or otherwise of this method of treatment and to its success or failure. It was completely efficacious when carried out under the supervision of superior and highly paid officers in the last famine epidemic, and unless such supervision is exercised the work is probably but perfunctorily performed by many patels and the police. Again, in many places the people are suspicious and do not use the well water thus treated but resort to that of nullahs or tanks. Another fertile source of infection was the failure of the people to destroy the soiled clothes and the dejecta of cholera patients. There was at the same time a great plague of flies in the south of the province. Lastly, the consumption of juar probably helped to call forth the choleraic diarrhœa.

Small-pox accounted for 9889 deaths, as against 8364 in 1905; this greater prevalence during these two last years was probably due to the hindrance of vaccination caused by plague and cholera. The disease was much milder than formerly. Fevers carried off 225,141 of the population, against 207,195 in the preceding year, the death-rate rising from 17·43 in 1905 to 18·95 per 1000 in 1906. But malarial fevers are not entirely responsible for the mortality classified under this head, as mingled with them are the deaths doubtless from enteric fever and probably every malady in which fever is a symptom; for example, practically every case of pneumonia or pulmonary tuberculosis

[1] Nos. I., II., and III. were published in THE LANCET of Feb. 22nd (p. 582) and 29th (p. 661), and March 14th (p. 806), 1908, respectively.

finds its way into this heading. The civil surgeon of Saugor thinks, indeed, that only 40 per cent. of the deaths thus recorded could be assigned to malaria.

We are glad to notice that measures for the extermination of mosquitoes were undertaken in Badnur, Jubbulpore, Khandwa, Bilaspur, Nagpur, Damoh, and Buldana by the filling up of pits and hollows and the treatment with kerosene oil. Amongst other measures undertaken there was a decrease of 525 in the number of packets of quinine sold as compared with the sale in 1905. This was probably due to villages being deserted on account of plague. In one district it was calculated that the consumption of quinine worked out only to a fraction of a grain per head of fever mortality. There was an abnormally high death-rate recorded from dysentery and diarrhœa, the ratio per 1000 of population being 8·91 for the former and 1·98 for the latter, as against the quinquennial average of 5·50 and 1·44 respectively for Berar and the Central Provinces. The excess in the death-rate in Berar may be due to juar eating to some extent, but the civil surgeon of Yeotmal holds that it was undoubtedly owing to the fact that a number of deaths from cholera were returned under the above heading. With respect to plague, the epidemic of 1905–06 lasted throughout April, when it largely decreased, stopping abruptly early in May, so that June was practically free. A new epidemic, of 1906–07, started at the end of July and by September had acquired considerable importance; there was a slight fall in November, with a subsequent rise in December, and the year closed with the epidemic running strongly. The measures undertaken to counteract the disease will be noticed in a later article.

Coming next to snakebite, we find 25 cases recorded in the Central Provinces and 12 in Berar. The former were thus treated: 16 cases with antivenene and nine with permanganate of potassium, of which 20 recovered, five proving fatal. In Berar the 12 cases were treated with permanganate of potassium, of which only three proved fatal, these latter cases attending the dispensary too late for treatment. In only two of the non-fatal cases in the Central Provinces was the snake satisfactorily identified as the echis carinata, and the success is attributed to the speedy resort to the permanganate of potassium. One case of bite from an echis is given where treatment was begun within a quarter of an hour of the bite. A ligature was applied, the fang marks were incised, hæmorrhage was encouraged, and then the permanganate was applied with success. Dr. Quinn of Betul states that the permanganate treatment appears to be efficacious in bites by the krait, daboia, bungarus, and echis carinata, whilst antivenene is most efficacious in cobra bite. There were 52 cases of cancer treated in the various dispensaries. Lastly, the use of teora appears to have ceased, probably owing to the distribution and insertion in school readers of the note drawn up by Major Buchanan, I.M.S.

We are glad to note that the Chief Commissioner acknowledges the services of Colonel Weir, the Sanitary Commissioner, and of the many medical officers both of superior and subordinate rank, for their hard work in combating the cholera and plague epidemics of the year. His commendation was evidently richly deserved.

*Report of the Simla Sanitary Investigation Committee.*

In January, 1905, a committee consisting of Lieutenant-Colonel C. J. Bamber, I.M.S., Sanitary Commissioner of the Punjab, President, and three members—viz., Lieutenant-Colonel W. D. Thomson, I.A., Mr. C. E. V. Goument sanitary engineer, Punjab, and Major Green, I.M.S., the civil surgeon, Simla, assembled for the purpose of inquiring into, and reporting on, the present sanitary arrangements of Simla. After a thorough investigation the following recommendations were urged: (*a*) The readjustment of the water-rate and the amount allotted to each house; (*b*) the construction of an additional filter bed on the upper gravitation line; (*c*) the closure of the Central Hotel spring and its use as a flushing supply for the sewers; (*d*) the more strict regulation of the milk-supply; (*e*) the improvement of the conservancy system by the introduction of the water carriage method of disposal of excreta—this was to be accomplished as far as possible by converting all public latrines and urinals into automatically flushed trough closets and connecting all premises at a reasonable distance with the sewerage system; (*f*) an additional number of incinerators for disposal of rubbish; (*g*) the appointment of a medical officer of health on the English system and an addition to the number of sweepers; (*h*) the exclusion of pack animals from the bazaar; (*i*) the improvement of laundry arrangements by licensing dhobis and increasing the number of tanks; (*j*) the more thorough prevention of overcrowding; and lastly, the adoption of precautions for the prevention of infectious disease. Some of these suggestions would doubtless cost money and it was left to the Government to determine what portion, if any, could be borne by the municipality, but at the date of writing the report some of the suggestions had already been introduced by the municipality. Thus a building has been erected near the Ripon Hospital to which any European or Eurasian suffering from any infectious disease but small-pox could be removed. With regard to small-pox the present hospital for Europeans and Eurasians was recommended to be fitted up better, whilst a new hospital for cases of the disease occurring amongst the natives of India was proposed for erection on some isolated spot at a reasonable distance from the station but in such a position as to be separated from all other dwellings by a quarter of a mile. The hospital for Europeans above mentioned is in much closer proximity to other dwellings than would be allowed in England, but as cases of small-pox amongst Europeans and Eurasians are rare the necessity for the removal of the hospital to another site was not considered pressing. It is sincerely to be hoped that all the above reasonable recommendations of the committee will be carried into effect.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on March 12th, Mr. HENRY MORRIS, the President, being in the chair.

The SECRETARY reported the death on Feb. 28th, at the age of 70 years, of Mr. Reginald Harrison, past Vice-President and past member of the Council. The following resolution was carried:—

The Council hereby express their deep regret at the death of Mr Reginald Harrison and their sincere sympathy with Mrs. Harrison and her family in the loss which they have sustained. They gratefully remember Mr. Harrison's earnest and judicious work while he was a Vice-President and member of the Council, and they feel that the College has lost a distinguished Fellow who will long be remembered not only for his professional abilities but for the generous and kindly disposition which won for him the goodwill and esteem of all who knew him.

The SECRETARY reported the death on March 3rd, at the age of 70 years, of Sir Alfred Cooper, past Vice-President and past member of the Council. The following resolution was carried:—

That the Council hereby express their deep regret at the death of their former colleague, Sir Alfred Cooper, and their sincere sympathy with Lady Agnes Cooper and the members of her family in their bereavement. That the Council do also record their appreciation of Sir Alfred Cooper's services to the College while Vice-President and member of the Council and they deplore the loss of a distinguished Fellow of the College, whom they highly esteemed as an able colleague, and for whom they entertained the warmest feelings of personal friendship.

The Committee re-elected Mr. W. A. Maggs a member of the Board of Examiners in Dental Surgery.

The PRESIDENT reported the delivery of the Erasmus Wilson lectures by Mr. S. G. Shattock, Dr. J. W. H. Eyre, and Mr. L. S. Dudgeon; and of the Hunterian lectures by Dr. Victor Bonney, Mr. Donald Armour, Dr. F. C. Shrubsall, and Mr. A. Ralph Thompson.

Mr. Rickman J. Godlee was elected the representative of the Royal College of Surgeons of England on the Council of University College, Bristol, in the vacancy occasioned by the resignation of Mr. Thomas Bryant.

A letter was read from the Registrar of the University of Liverpool communicating a resolution adopted by the Council of the University on the recommendation of the Senate and the Board of Dental Studies. It referred to the duration of the attendance of dental students on general hospital practice. It was referred to the Board of Examiners in Dental Surgery to consider and to report.

A letter was read from Mr. A. Fairlie Allingham thanking the Council for its resolution in reference to the death of his father.

The PRESIDENT stated that he had fixed July 1st, 1908, as the date for closing the poll of the Fellows and Members on the subject of admitting women to the diplomas of the College.

The Secretary was authorised to remove from the list of

Members published in the College Calendar the names of all Members admitted before the year 1850 whom he was unable to trace as still living by reference to the Medical Register and directories.

# VITAL STATISTICS.

## HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9059 births and 5350 deaths were registered during the week ending March 14th. The mean annual rate of mortality in these towns, which had been equal to 17·3 and 17·6 per 1000 in the two preceding weeks, declined again to 17·2 in the week under notice. During the first 11 weeks of the current quarter the annual death-rate in these towns averaged 18·2 per 1000; the mean rate in London during the same period did not exceed 17·8. The lowest annual death-rates in the 76 towns last week were 10·9 in East Ham, 11·6 in Willesden, 11·7 in Cardiff, 11·8 in Hornsey, and 11·9 in Southampton; in the other towns the rates ranged upwards to 23·7 in Middlesbrough, 25·0 in Merthyr Tydfil, 25·1 in Burton-on-Trent, and 32·4 in Stockton-on-Tees. The rate of mortality in London last week did not exceed 16·7 per 1000. The 5350 deaths in the 76 towns last week showed a decline of 143 from the number in the previous week, and included 400 which were referred to the principal epidemic diseases, against 374 and 414 in the two preceding weeks; of these, 134 resulted from whooping-cough, 125 from measles, 58 from diphtheria, 35 from scarlet fever, 28 from diarrhœa, and 20 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·3 per 1000, corresponding with the rate in the previous week; the rate from the same diseases in London was only 1·1. No death from any of these epidemic diseases was registered last week in Leyton, St. Helens, Rochdale, York, or in nine other smaller towns; the annual death-rates from these diseases ranged upwards, however, in the other towns to 3·4 in Merthyr Tydfil, 3·5 in Salford, 4·0 in Burnley, and 4·9 in Stockton-on-Tees. The fatal cases of whooping-cough in the 76 towns, which had been 170, 138, and 149 in the three preceding weeks, declined again to 134 in the week under notice; the highest death-rates from this disease last week were 1·6 in Walsall, 1·7 in Sunderland, 2·2 in Warrington, and 3·1 in Bootle. The 125 deaths from measles exceeded the number in the previous week by 16, and caused death-rates equal to 1·8 in Preston, 2·0 in Burnley, 2·7 in Rhondda and Merthyr Tydfil, and 4·9 in Stockton-on-Tees. The deaths referred to diphtheria, which had been 47 and 66 in the two preceding weeks, declined again to 58 last week, the highest proportional mortality from this disease being 1·5 in West Bromwich. The 35 fatal cases of scarlet fever showed an increase of 12 upon the low number in the previous week; 14 occurred in London, two in West Ham, two in Birmingham, three in Liverpool, and three in Salford. The 28 deaths attributed to diarrhœa were fewer than in any previous week of this year. Of the 20 deaths referred to "fever" only five occurred in London, four in Liverpool, two in Salford, and two in Halifax. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 14 preceding weeks from 5531 to 3567, had further fallen to 3429 on March 14th; only 312 new cases were admitted to these hospitals during the week under notice, against 420, 383, and 345 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had declined in the four previous weeks from 451 to 325, further fell to 317 in the week under notice, and were 31 below the corrected average number in the corresponding week of the five years 1903–07. The deaths in London directly attributed to influenza further fell to 93 last week, from 141 and 122 in the two preceding weeks. The causes of 48, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified last week in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Hull, Nottingham, and in 47 other smaller towns; 11 uncertified causes of deaths were, however, registered in Liverpool, seven in Birmingham, and five in Sheffield.

## HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 19·2 and 19·3 per 1000 in the two preceding weeks, further rose to 20·3 in the week ending March 14th, and exceeded by 3·1 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rates ranged from 17·3 both in Edinburgh and in Leith, to 22·5 in Paisley and 31·1 in Perth. The 714 deaths in these eight towns showed a further increase of 33 upon the numbers in the two previous weeks and included 97 which were referred to the principal epidemic diseases, against 99 and 96 in the two preceding weeks; of these, 46 resulted from measles, 20 from whooping-cough, 17 from diarrhœa, seven from "fever," four from scarlet fever, and three from diphtheria, but not one from small-pox. These 97 deaths were equal to an annual rate of 2·8 per 1000, which exceeded by no less than 1·5 the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles, which had been 41 and 47 in the two preceding weeks, were 46 in the week under notice, and included 35 in Glasgow, six in Edinburgh, and two both in Aberdeen and in Greenock. The 20 deaths from whooping-cough exceeded the number returned in each of the two previous weeks; six occurred both in Glasgow and in Leith, four in Edinburgh, and two in Dundee. The 17 deaths attributed to diarrhœa exceeded the low number in the previous week by ten. The seven deaths referred to "fever" were, however, fewer than in any recent week, all being certified as cerebro-spinal meningitis; five were returned in Glasgow and one each in Edinburgh and in Leith. Of the four fatal cases of scarlet fever, two occurred both in Glasgow and in Aberdeen. The deaths from diphtheria were fewer than in any recent week. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 137 and 156 in the two preceding weeks, declined again to 142 in the week under notice, and were 14 below the number returned in the corresponding week of last year. The causes of 21, or 2·9 per cent., of the deaths in these eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 0·9 per cent.

## HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 21·0 and 24·1 per 1000 in the two preceding weeks, further rose to 24·8 in the week ending March 14th. During the first 11 weeks of the current quarter the death-rate in the city averaged 25·5 per 1000, the mean rates during the same period being only 17·8 in London and 18·8 in Edinburgh. The 188 deaths of Dublin residents registered in the week under notice showed a further increase of six upon the numbers returned in the two preceding weeks, and included but four which were referred to the principal epidemic diseases, against seven and nine in the two previous weeks; these four deaths included two from diphtheria, and one each from "fever" and diarrhœa, but not one either from small-pox, measles, scarlet fever, or whooping-cough. These four deaths were equal to an annual rate of 0·5 per 1000, the death-rate last week from these principal epidemic diseases being equal to 1·1 in London and to 1·9 in Edinburgh. The fatal cases of diphtheria in Dublin, which had been two and three in the two previous weeks, declined again last week to two. The 188 deaths from all causes in Dublin last week included 31 of infants under one year of age and 59 of persons aged upwards of 60 years; the deaths of elderly persons showed a considerable increase upon recent weekly numbers. Six inquest cases and seven deaths from violence were registered, and 75, or 39·9 per cent., of the deaths occurred in public institutions. The causes of seven, or 3·7 per cent., of the deaths in Dublin last week were not certified; in London all but one of the 1533 causes of death were duly certified, while in Edinburgh the proportion of uncertified deaths was 6·9 per cent.

## VITAL STATISTICS OF LONDON DURING FEBRUARY, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering

## ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING FEBRUARY, 1908.

*(Specially compiled for* THE LANCET.)

| CITIES AND BOROUGHS. | Estimated population in the middle of 1908. | NOTIFIED CASES OF INFECTIOUS DISEASE. | | | | | | | | | | DEATHS FROM PRINCIPAL INFECTIOUS DISEASES. | | | | | | | | | | Deaths from all causes. | Death-rate per 1000 living. | Deaths of Infants under one Year to 1000 births. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Small-pox. | Scarlet fever. | Diphtheria.* | Typhus fever. | Enteric fever. | Other continued fevers. | Puerperal fever. | Erysipelas. | Cerebro-spinal meningitis. | Total. | Annual rate per 1000 persons living. | Small-pox. | Measles. | Scarlet fever. | Diphtheria.* | Whooping-cough. | Typhus fever. | Enteric fever. | Other continued fever. | Diarrhœa. | Total. | Annual rate per 1000 persons living. | |
| LONDON .. ... ... ... ... ... ... | 4,796,787 | — | 1168 | 687 | 1 | 66 | — | 18 | 336 | 9 | 2875 | 7·8 | — | 78 | 53 | 55 | 125 | — | 10 | 1 | 58 | 380 | 1·0 | 114 |
| *West Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| Paddington ... ... ... ... ... | 150,923 | — | 26 | 12 | — | — | — | — | 10 | — | 48 | 4·1 | — | 4 | — | 2 | 1 | — | — | — | 2 | 9 | 0·8 | 185 | 16·0 | 130 |
| Kensington ... ... ... ... ... | 182,752 | — | 29 | 18 | — | 3 | — | — | 11 | — | 62 | 4·4 | — | 5 | — | 2 | — | — | — | — | 2 | 9 | 0·6 | 243 | 17·3 | 95 |
| Hammersmith ... ... ... ... ... | 124,012 | — | 40 | 26 | — | 7 | — | — | 4 | — | 77 | 8·1 | — | 2 | — | 2 | 2 | — | — | — | — | 7 | 0·7 | 157 | 16·5 | 151 |
| Fulham ... ... ... ... ... ... | 171,562 | — | 63 | 27 | — | 6 | — | 2 | 10 | — | 108 | 8·2 | — | 2 | 2 | — | 3 | — | — | — | 2 | 9 | 0·7 | 187 | 14·2 | 95 |
| Chelsea ... ... ... ... ... ... | 75,049 | — | 17 | 13 | — | — | — | — | 4 | — | 34 | 5·9 | — | 3 | — | 1 | 3 | — | — | — | 1 | 8 | 1·4 | 104 | 18·1 | 147 |
| City of Westminster ... ... ... | 170,545 | — | 56 | 10 | — | 3 | — | — | 9 | — | 78 | 6·0 | — | 2 | — | — | 1 | — | 1 | — | 4 | 9 | 0·7 | 213 | 16·3 | 118 |
| *North Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Marylebone ... ... ... ... | 126,867 | — | 27 | 9 | — | 2 | — | — | 7 | — | 45 | 4·6 | — | 1 | 1 | — | 1 | — | 1 | — | 1 | 5 | 0·5 | 151 | 15·5 | 69 |
| Hampstead ... ... ... ... ... | 92,654 | — | 27 | 5 | — | — | — | — | 1 | — | 33 | 4·6 | — | — | 3 | 1 | — | — | — | — | 1 | 5 | 0·7 | 90 | 12·7 | 54 |
| St. Pancras ... ... ... ... ... | 237,075 | — | 91 | 28 | 1 | 4 | — | 2 | 8 | 1 | 135 | 7·4 | — | 3 | 4 | 2 | 6 | — | — | — | 1 | 16 | 0·9 | 308 | 16·9 | 126 |
| Islington ... ... ... ... ... | 349,091 | — | 87 | 43 | — | 4 | — | 1 | 22 | 1 | 158 | 5·9 | — | 4 | 5 | 3 | 5 | — | 1 | — | — | 18 | 0·7 | 404 | 15·1 | 117 |
| Stoke Newington ... ... ... ... | 64,015 | — | 19 | 7 | — | — | — | 2 | 2 | — | 30 | 7·2 | — | — | — | — | — | — | — | — | 1 | 1 | 0·2 | 80 | 19·3 | 149 |
| Hackney ... ... ... ... ... ... | 235,253 | — | 89 | 32 | — | 4 | — | 1 | 23 | — | 149 | 8·3 | — | 2 | 3 | 6 | 3 | — | — | — | 3 | 17 | 0·9 | 310 | 17·2 | 111 |
| *Central Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| Holborn ... ... ... ... ... | 54,466 | — | 28 | 10 | — | 1 | — | — | 5 | — | 44 | 10·5 | — | 1 | — | 1 | 1 | — | — | — | — | 3 | 0·7 | 83 | 19·9 | 63 |
| Finsbury ... ... ... ... ... | 86,007 | — | 28 | 9 | — | 2 | — | — | 14 | — | 53 | 7·2 | — | 1 | 1 | 1 | 4 | — | — | — | 2 | 9 | 1·2 | 158 | 21·5 | 110 |
| City of London ... ... ... ... | 19,252 | — | 10 | 1 | — | — | — | — | — | — | 11 | 7·4 | — | — | — | — | — | — | — | — | — | — | — | 48 | 32·5 | 250 |
| *East Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| Shoreditch ... ... ... ... ... | 115,227 | — | 40 | 15 | — | 1 | — | — | 10 | 1 | 67 | 7·6 | — | 2 | 3 | 1 | 1 | — | — | — | 1 | 8 | 0·9 | 167 | 18·9 | 123 |
| Bethnal Green ... ... ... ... ... | 131,066 | — | 94 | 14 | — | 4 | — | 1 | 19 | — | 132 | 13·1 | — | 6 | 4 | 1 | 2 | — | — | — | 2 | 17 | 1·7 | 201 | 20·0 | 118 |
| Stepney ... ... ... ... ... ... | 310,706 | — | 168 | 50 | — | 2 | — | 1 | 36 | — | 247 | 10·4 | — | 15 | 6 | 8 | 21 | — | — | — | 7 | 57 | 2·4 | 469 | 19·7 | 110 |
| Poplar ... ... ... ... ... ... | 171,516 | — | 90 | 44 | — | 2 | — | — | 1 | 2 | 149 | 11·3 | — | 9 | — | 5 | 17 | — | 1 | — | 5 | 37 | 2·8 | 258 | 19·6 | 150 |
| *South Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| Southwark ... ... ... ... ... | 210,442 | — | 75 | 32 | — | 2 | — | — | 20 | 2 | 131 | 8·1 | — | — | 6 | 3 | 6 | — | — | — | 3 | 18 | 1·1 | 340 | 21·1 | 111 |
| Bermondsey ... ... ... ... ... | 127,910 | — | 45 | 19 | — | 2 | — | 1 | 10 | 1 | 78 | 7·9 | — | — | 5 | — | 4 | — | 1 | 1 | 2 | 13 | 1·3 | 237 | 24·2 | 125 |
| Lambeth ... ... ... ... ... ... | 321,344 | — | 145 | 24 | — | 2 | — | — | 20 | — | 191 | 7·7 | — | 7 | — | 3 | 7 | — | — | — | 6 | 23 | 0·9 | 393 | 15·9 | 98 |
| Battersea ... ... ... ... ... | 183,673 | — | 53 | 31 | — | 3 | — | — | 11 | — | 98 | 6·9 | — | 3 | 2 | — | 3 | — | 1 | — | 2 | 11 | 0·8 | 207 | 14·7 | 70 |
| Wandsworth ... ... ... ... ... | 289,506 | — | 116 | 63 | — | 3 | — | 2 | 16 | — | 200 | 9·0 | — | 1 | 3 | — | 8 | — | — | — | 5 | 17 | 0·8 | 318 | 14·3 | 103 |
| Camberwell ... ... ... ... ... | 280,022 | — | 114 | 37 | — | 3 | — | 1 | 17 | — | 172 | 8·0 | — | 1 | 2 | 5 | 5 | — | — | — | 1 | 14 | 0·7 | 369 | 18·1 | 135 |
| Deptford ... ... ... ... ... | 117,539 | — | 62 | 24 | — | — | — | — | 13 | — | 89 | 9·9 | — | 1 | 2 | 1 | 3 | — | — | — | 1 | 8 | 0·9 | 177 | 19·6 | 131 |
| Greenwich ... ... ... ... ... | 109,110 | — | 21 | 23 | — | 3 | — | 1 | 5 | — | 53 | 6·3 | — | — | 1 | 2 | 3 | — | — | 1 | — | 9 | 0·7 | 193 | 16·1 | 107 |
| Lewisham ... ... ... ... ... | 156,627 | — | 61 | 30 | — | 2 | — | 1 | 11 | — | 105 | 8·7 | — | 3 | — | 1 | 3 | — | — | — | 2 | 10 | 1·0 | 148 | 14·7 | 168 |
| Woolwich ... ... ... ... ... | 131,346 | — | 57 | 31 | — | 1 | — | 1 | 7 | 1 | 98 | 9·7 | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Port of London ... ... ... ... | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

* Including membranous croup.

from one or other of the nine diseases specified in the table was equal to an annual rate of 7·8 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 11·4, 9·1, and 8·4 per 1000 respectively. The lowest rates last month were recorded in Paddington, Kensington, Chelsea, St. Marylebone, Hampstead, and Islington; and the highest rates in Holborn, Bethnal Green, Stepney, Poplar, Deptford, and Woolwich. The prevalence of scarlet fever again showed a considerable decline last month; among the various boroughs this disease was proportionally most prevalent in Holborn, the City of London, Bethnal Green, Stepney, Poplar, Lambeth, and Deptford. The Metropolitan Asylums hospitals contained 3591 scarlet fever patients at the end of last month, against 5600, 4956, and 3866 at the end of the three preceding months; the weekly admissions averaged 410, against 621, 458, and 423 in the three preceding months. Diphtheria was rather less prevalent than it had been in either of the two preceding months; the greatest proportional prevalence of this disease was recorded in Hammersmith, Poplar, Deptford, Greenwich, Lewisham, and Woolwich. The number of diphtheria patients remaining under treatment in the Metropolitan Asylums hospitals, which had been 1277, 1168, and 1135 at the end of the three preceding months, had risen again to 1184 at the end of February; the weekly admissions averaged 149, against 179, 155, and 150 in the three preceding months. The prevalence of enteric fever showed a further diminution last month as compared with other recent months; this disease was proportionally most prevalent in Hammersmith, Fulham, Finsbury, Bethnal Green, and Greenwich. There were 79 enteric fever patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 128, 119, and 96 at the end of the three preceding months; the weekly admissions averaged 10, against 18, 18, and 12 in each in the three preceding months. Erysipelas was proportionally most prevalent in Hackney, Finsbury, Bethnal Green, Stepney, and Deptford. The 18 cases of puerperal fever notified during the month included two in Fulham, two in St. Pancras, two in Stoke Newington, two in Wandsworth, and one in each of ten other boroughs. Of the nine cases of cerebro-spinal meningitis two belonged to Poplar and two to Southwark.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending Feb. 29th the deaths of 6396 London residents were registered, equal to an annual rate of 17·4 per 1000; in the three preceding months the rates were 14·5, 15·2, and 17·5 per 1000 respectively. The death-rates last month ranged in the several boroughs from 12·7 in Hampstead, 14·2 in Fulham, 14·3 in Wandsworth, 14·7 in Battersea and in Woolwich, and 15·1 in Islington, to 20·0 in Bethnal Green, 21·1 in Southwark, 21·3 in Greenwich, 21·5 in Finsbury, 24·2 in Bermondsey, and 32·5 in the City of London. The 6396 deaths from all causes included 380 which were referred to the principal infectious diseases; of these, 78 resulted from measles, 53 from scarlet fever, 55 from diphtheria, 125 from whooping-cough, 10 from enteric fever, one from ill-defined pyrexia, and 58 from diarrhœa. No death was recorded last month from any of these diseases in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Kensington, St. Marylebone, and Stoke Newington; and the highest rates in Chelsea, Finsbury, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Greenwich. The 78 deaths from measles were less than half the corrected average number in the corresponding periods of the five years 1903–07; this disease was proportionally most fatal last month in Paddington, Kensington, Chelsea, Bethnal Green, Stepney, and Poplar. The 53 fatal cases of scarlet fever were 20 above the average; among the various metropolitan boroughs the greatest proportional mortality from this disease was recorded in Hampstead, Shoreditch, Bethnal Green, Stepney, Southwark, and Bermondsey. The 55 deaths from diphtheria showed a decline of 16 from the corrected average number in the corresponding period of the five preceding years; this disease caused the highest death-rates in Hackney, Stepney, Poplar, Camberwell, and Lewisham. The 125 fatal cases of whooping-cough were 4 below the corrected average number; among the several boroughs whooping-cough was proportionally most fatal in Chelsea, Finsbury, Stepney, Poplar, Greenwich, and Woolwich. The 11 deaths referred to different forms of fever were seven fewer than the corrected average; these 11 deaths included two belonging to Bethnal Green and two to Bermondsey. The fatal cases of diarrhœa showed a slight decline from the corrected average number; the greatest proportional mortality from this disease occurred in the City of Westminster, Finsbury, Stepney, Poplar, and Lambeth. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was 26 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 114 per 1000. The lowest rates of infant mortality were recorded in Kensington, Fulham, St. Marylebone, Hampstead, Holborn, Lambeth, and Battersea; and the highest rates in Hammersmith, Chelsea, Stoke Newington, the City of London, Poplar, and Greenwich.

## THE SERVICES.

### ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeon: A. E. Kelsey to the *Lancaster*, on recommissioning. Staff Surgeon: J. P. H. Greenhalgh to the *Vernon*. Surgeons: J. S. Dudding to the *Lancaster*, on recommissioning; H. C. Adams to Haslar Hospital, to assist in instruction of surgeons on entry; J. Macdonald to the *Pembroke*, additional, for Queensferry Hospital; A. R. Schofield, to the *Ringdove*; H. M. Langdale to the *Victory*, temporary; A. B. Marsh to the *Vivid*, additional, to be lent to the *Hebe*, temporary, and W. W. D. Chilcott to the *Teal*.

### ARMY MEDICAL SERVICE.

Surgeon-General John D. Edge, C.B., is placed on retired pay (dated March 9th, 1908). Colonel George D. Bourke, C.B., to be Surgeon-General, vice J. D. Edge, C.B. (dated March 9th, 1908). Lieutenant-Colonel Henry W. Murray, from the Royal Army Medical Corps, to be Colonel, vice G. D. Bourke, C.B. (dated March 9th, 1908).

### ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Samuel F. Lougheed, C.M.G., retires on retired pay (dated March 14th, 1908).

Captain A. Chopping, 1st (Peshawur) Division, and Captain H. G. S. Webb, 3rd (Lahore) Division, have been appointed specialists in electrical science. Major F. Kiddle, specialist in ophthalmology, 5th (Mhow) Division, has been transferred to the 9th (Secunderabad) Division in the same capacity.

### ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Bonner H. Mumby to be Surgeon-Major (dated Feb. 26th, 1908).

LONGEVITY.—Mrs. Margaret Cane, who celebrated the hundredth anniversary of her birthday last June, was admitted into the Stonehouse (Plymouth) workhouse on March 13th.

MEDICAL MEN IN PARLIAMENT.—Speaking at the annual meeting of the Hoxton Liberal Association recently in support of the prospective Liberal candidate, Dr. Christopher Addison, Sir William Collins, M.P., said that there was plenty of room in the House of Commons and the London County Council for men belonging to the honourable profession to which he and their candidate belonged. The health of a nation was the wealth of a nation, and medical men were by no means out of place in the counsels of the Empire. He ventured to claim that medical men, even more than their fellow professional men the lawyers, who too often made Parliament their happy hunting-ground, were specially qualified to be of service to the nation. For after all, when they talked of diagnosis, what was it but the prompt apprehension of minute differences? Again, when they spoke of prognosis, what was it but an accurate prevision of the future based upon a careful observation of the past? Treatment in its ultimate analysis, too, was it not resourcefulness in cases of emergency? He asked whether these qualities, which were specially developed in medical men, ought not to be more frequently brought to the service of the State?

# Correspondence.

"Audi alteram partem."

## THE PUBLIC ATTITUDE IN REGARD TO FRACTURES.

*To the Editor of* THE LANCET.

SIR,—In these days when the general public, fortified by x ray pictures, hold strong views on the subject of fractures, it behoves us as a profession to be wary. This is the more to be emphasised as amongst ourselves we are divided and often strongly opposed on what to many would appear to be essentials. A surgeon, for instance, who practises early massage and ambulation, looks askance upon the stiffness following the prolonged use of a splint, while he who believes in immediate incision and fixation has no excuse to offer for an overlapping. Again, the surgeons who do not operate can scarce conceal their indignation when they are confronted by a wired fracture which has suppurated. What we have to recognise as a profession is that none of us, nor all of us combined, possess the whole truth, and that the most careful and the most experienced amongst us will sometimes fail where we expect to succeed. If we all realised the import of this we should prove very loyal to one another, and be sympathetic where now unfortunately we are critical. While Roentgen's discovery has been to us of immense value, chiefly in the classification of our injuries, it has done little if anything to perfect or even alter our treatment of fractures. It is a valuable adjunct to our clinical armamentarium, but it should never be allowed to usurp our other diagnostic faculties. It is deplorable to think of the education of the student of to-day who rarely troubles to make himself ordinarily efficient in the diagnosis of a fracture, but meekly awaits the revelation of an often misleading x ray photograph.

Notwithstanding the help afforded us in diagnosis by radiography, we must not forget certain facts. First, there is the danger of an almost ludicrous distortion of the shadows which sometimes occur and depend on the changed positions of the tube; and secondly, even for a moderately correct interpretation of a negative, we must remember that a long and careful training is necessary. My colleague, Dr. Morgan, has for a long time taken over 1000 radiograms a year for me, and although we conjointly examine the negatives we frequently fundamentally differ in their interpretation. Some of the public, however, generally from information received, find the interpretation very simple, and if an end-to-end apposition is not secured they are prepared to sue for compensation. The public should be made clearly to understand that end-to-end apposition is most rarely secured, even by the most experienced of surgeons. They should be told that end-to-end apposition is not necessary to the perfect function of the limb, and that the disabilities that follow fractures are often due to injury to the soft parts and cannot be even remotely affected by the closest and most perfect apposition. In my own practice the occasions are frequent when patients present their radiograms and invite me to criticise. I am usually prepared with a picture of a similar or worse deformity and I endeavour to explain to them the difficulties which their medical attendant may have had to encounter. If this explanation be loyally entered into and the deformity, if possible, corrected, the kindliest service is done to both the patient and to his doctor. This course can be taken without the slightest deviation from truth, for I maintain that no surgeon weeks after an injury has occurred can be qualified to decide whether the treatment adopted has been good or bad. After a simple fracture of the humerus, for instance, the musculo-spiral may be paralysed or the circulation of the forearm may be so obstructed by the injury alone that an ischæmic paralysis may occur. How easy in either case to blame the practitioner, in the first instance for malunion, in the second instance for tight bandaging. It is a sad confession, but I firmly believe that we would rarely hear of actions at law against members of our profession if the patient did not receive encouragement, directly or otherwise, from one of our members.

In my experience, to obtain end-to-end apposition of bones is not nearly so important as it is to obtain a correct alignment. This is especially true of fractures of the ankle-joint and of fractures of the femur. A proper alignment prevents a harmful deflection of body weight. I have taken a large number of radiographs where absolutely good function has resulted although the bones have considerably overlapped, and I have also many pictures where the apposition has been end-to-end and the functional recovery very poor. The defect in function is due generally to deflection at the point of fracture, or to direct traumatism of the soft structures. An example of this may be noted in the disabilities following a Pott's fracture, where correction of the eversion usually restores the function of the limb. In old cases of Pott's fracture with marked eversion it is not necessary to bring about an end-to-end apposition of the bones. All that is needed is an osteotomy of the fibula and the removal of a wedge from the tibia in order to correct the eversion of the foot. Any surgeon of large experience will recall the cases which have given him trouble. They are usually those—whether apposition be good or bad—where the bones have united at an angle. The superincumbent body weight in such cases places a mechanical strain upon the angle formed by the fracture, and until the proper alignment is restored function will be defective. Again, in fractures of the thigh, overlapping is of little consequence compared with varoid or valgoid deflection, and when I desire to restore function I have long ceased to cut down upon the fracture to remove bone and peg, but with equally good results, and with infinitely less risk, I perform a simple osteotomy at the point of lateral apposition and straighten the limb forthwith.

The object of splints is merely to maintain a correct alignment of the limb, and the public should be educated to the fact that apart from this they are harmful, and whenever and wherever possible it is best to dispense with them. Physiological rest, so essential to rapid and uneventful healing, is frustrated by circular compression, and this is more especially the case in fractures about the joints. For this reason in fractures about or involving the elbow and shoulder I have for some years discarded splints. In fractures of the anatomical or surgical neck of the humerus I merely sling the arm, place a little lint for cleanliness in the axilla, bandage loosely to the side and trust to the weight of the arm to afford the necessary traction. In the elbow I acutely flex and supinate the arm but use no splints. My results in consequence have been infinitely better than in former days. I have, however, often the greatest difficulty in persuading my patients I am doing my duty in ignoring the more academic and traditional methods. If the elbow or shoulder should be ultimately defective the x ray print may travel round the consulting rooms of leaders of our profession who may be called upon to condemn. The loyalty which comes of trying to appreciate the difficulties which colleagues may have had to encounter should always save the situation and prevent the life of a practitioner from becoming positively intolerable. It is well never to disguise from our patient the fact that what appears to be a simple fracture may present complications which time alone will reveal and that the mere break of the bones may be the least serious element of the accident to the limb. They should know that a useful limb with deformity is more desirable than an artistic useless one.

In this connexion I may mention that in fractures of the condyle of the humerus in children, when the arm is acutely flexed, a widening takes place of the lower end of the bone. I ask the mother always when I treat this fracture, "Which would you prefer, an ugly elbow with good movement or a beautifully modelled elbow with very limited movement?" They always give the same reply! It is always a good rule to make your patient and his friends realise your limitations. It saves subsequent disappointment and often subsequent trouble. Never encourage them to look at the x ray picture. It only gratifies them in a morbid taste and conveys the erroneous impression that their interpretation is simple. If they insist on seeing it let it be in the presence of their doctor and explain to them fully that surgeons do not "set" fractures in the popular sense of the term. We may rest assured that we jeopardise our position and power as a profession in the public thought by showing a want of confidence in, and loyalty to, one another.

I am, Sir, yours faithfully,

ROBERT JONES, F.R.C.S. Edin.

Liverpool, March 14th, 1908.

## THE PRESENT PROSPECTS OF THE MEDICAL PROFESSION.

*To the Editor of* THE LANCET.

SIR,—When Dr. Forbes-Ross tells us that the plan of fee-sharing which he has described is not dichotomy but that it is a "computed compound payment of two men for doing two men's work honestly," he appears not to understand what is meant by this word, which after all signifies only the division of fees between the consultant or operator and the family practitioner; any evil significance attaching to it is the result of the unwholesome manner in which this division works. But as he objects to call it dichotomy I have no objection to put it into plain English and call it bribery; it is a bribe offered by the consultant or operating surgeon to the family practitioner.

A slight modification of Dr. Forbes-Ross's plan will benefit the family practitioner in a perfectly unobjectionable manner. Instead of saying as he does, "Tell your patient that for the sum mentioned you and I will do what is necessary, operation and after-treatment," let him say: "Tell your patient that the fee will be so much for me, the operator, and so much for you, the family practitioner," and if the patient agrees to pay this would be a perfectly honest and fair transaction. Under Dr. Forbes-Ross's plan, however, the division of the fee is concealed from the patient and therefore is a corrupt payment, such as the Prevention of Corruption Act was passed to prevent. Dr. Forbes-Ross asks: "How can justice mean dishonour? How can anything that can be advocated as justice to a section of the community bring dishonour to the entire community?" The answer is obvious. It is quite easy to call a bad thing by a fine-sounding name; for an example we need to go no further than the Bill recently introduced into Parliament for the relief of the unemployed, which was advocated as justice to one class, but rejected as likely to cause injustice to the commonwealth and injury to the entire class that lives by labour.

I am, Sir, yours faithfully,

Birmingham, March 16th, 1908. ROBERT SAUNDBY.

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*To the Editor of* THE LANCET.

SIR,—As the opener in the discussion may I summarise three of the letters in reply to "Inspector-General's" letter of Jan. 25th? There is evidently a great sore among the rank and file of the profession; in fact, the letters point out the need of much reform. Of the 20 specialties or so I will lead off with the highest, "the specialty of all specialties," namely, lunacy practice, the bugbear of medicine. It is a specialty entirely by itself, learnt distinctly in special institutions for the purpose, and no one would dare to say he was qualified in lunacy unless he had spent some considerable time in a hospital for the insane. How many men in general practice can enter a private asylum to take command? And what a comparatively small proportion of general practitioners the Commissioners in Lunacy would sanction to the senior medical officership of a public asylum? Let me point out, too, Sir, to the general practitioner the sins he often commits against this specialty, frustrating and abusing the law of the land.

I bring these remarks to the fore because I imagine the opposers of specialism will grant "lunacy" a place by itself. Take another specialty which has increased tremendously of late years—odontology. No wonder a certain class of men enter this branch, for quite a harvest is to be made from it; and why? Because the profession has hitherto laughed it to scorn. It is now practically divorced from general medicine and surgery and left in the hands of half-qualified professional men holding just that degree to practise their specialty and no other—viz., L.D.S. Fancy a similar degree for other specialties like the eye, the ear, the throat, the abdomen, and so on. Of course, there are the D.P.H. and the M.P.C. (medico-psychological certificate) and I daresay in a few years there will be several more. Mr. T. Bryant in his excellent practical book on surgery points out the advantages of dental surgery to the general practitioner, for he remarks, "Without such knowledge he will be unable to advise his patients on the preservation of their health." I quote a case or example of gross ignorance. A woman was sent to a London hospital for malignant disease of the jaw and the surgeon was prepared to operate. When he arrived at the hospital the junior house surgeon said, "Please, sir, it is a mistake; it is, however, a dirty offensive smelling case and the mouth is partly closed, but I think it's only a tooth case." To be brief, the decayed tooth and a large piece of necrosed bone came away with the dental forceps. The cachexia and wasting soon passed off and the patient moved her jaws as freely as ever again. A little longer and the patient would have died from blood-poisoning. Now you see the usefulness of the L.D.S. And such special training might, to very great advantage, be applied to the former specialty, lunacy. I maintain what is the recognised thing for the private asylum having to pay a licence to the State should be the same for single case lunatics or the housing of any form of borderland cases of insanity. The detention of the borderland patient is for gain; and look at the risks of abuse where no Commissioners in Lunacy or visiting magistrates can legally enter the premises unless on suspicion. The public are aware of this and so are they who house these patients, sometimes at their own risk. But although the public wink the other eye with regard to the specialty of lunacy it is otherwise with dental surgery. If there is an L D S. at hand they always prefer him to extract their teeth than even their own family medical adviser, whom they otherwise respect, for experience has taught them how often he bungles at the job.

We can rapidly pass over other specialties, such as the ear, the skin, the throat, the nose, not least the eye, bacteriology, skiagraphy, public health, &c., with which general practitioners are superficially acquainted. I could quote from all these branches gross ignorance among the rank and file of the profession, almost as much as with the specialty of dentistry. How many of us, too, are sufficiently acquainted with or skilled in pathology, enabling the report of a P.M. to be of solid value? Again, what proportion of general practitioners can grasp some of those obscure gynæcological cases unassisted by the specialist? Moreover, are there a large number of men who have served a fixed time at children's hospitals or filled the post of resident medical officer outside their school of medicine? There are those who despise assistantships, when if they did fulfil such posts under a good general practitioner they would considerably improve in polish and medical knowledge. Are not general practitioners the medical advisers of the public? I have purposely dealt with specialism since that very excellent practitioner "Half-and-Half" in the issue of Feb. 8th remarks, "Let those who do not know their work properly, learn it." I wish it could be so, but it is hard to begin again—i.e., to go back to the alphabet of your hospital school days. I argue, why on earth were these men ever let loose among us? It is equally hard for men on the same equality with "Half-and-Half" to have to face these men in practice.

To give "Half-and-Half" further support let me put it direct to the 11 schools of medicine in London (for instance) and to the Royal Colleges of Physicians and Surgeons, to the Apothecaries' Hall, and not least the London University, the following: Be it understood, a candidate may part enter for his final examination but he will not receive his diploma to practise until he lodges a certificate stating that he has actually held office for at least three months on each specialty of the profession. He will have then about 20 certificates to hand in, and each to be in duplicate, one of which he is possessed of. It is obvious the curriculum will have to be extended and I do not think eight years too long with present-day requirements. How on earth can a man be capable of advising under that period? When we get some such uniformity—well-seasoned troops shall I call them—not only, I believe, will jealousy and rivalry lessen, but empiricists, gross advertisers of our drugs, and other weapons will cease sniping at us under the flag of a united profession.

In the issue of Feb. 22nd I agree with Dr. F. W. Forbes-Ross in his definition of the specialist; and to borrow from him in a musical style, "he who is well acquainted with all the instruments of the orchestra but concentrates his attention on one particular instrument to perfection." And this is my ideal specialist and I only know of him in London from one of the 11 schools of medicine. I never think of sending anyone to the great metropolis for a special opinion unless the Medical Directory tells me the specialist is on the staff of one of these eleven schools. But if all would do this—I mean the general practitioners—they would soon repair their broken masts, and their ships rapidly pass into smoother seas.

And regarding Mr. Walter Carter's queries, What constitutes a consultant, and to what fees is he entitled? any doctor may be a consultant of a kind, but if he wishes for the

pure consultant he must inquire from his family medical adviser; this is strict etiquette. The pure consultant is he attached to the staff of one of the 11 London teaching schools of medicine. Or it may apply to Edinburgh, Dublin, or any city of the United Kingdom or Great Britain beyond the Seas where there are also teaching schools of medicine. His fee is usually £2 2*s.* or £3 3*s.* at his house in Harley-street or Cavendish-square or elsewhere. How often are discussions of this kind brought forward and the iron kindled to red heat and then allowed to cool. Cannot something, however, on this occasion be done to prove the exception to the usual termination of such discussions? Something really tangible to lead to fruit by waking up the apathy of those who have had their day, yet sit in the highest chamber of the profession in idle contentment of worn-out rules and college regulations?

I am, Sir, yours faithfully,

Feb. 24th, 1908. VIRTUTEM SEQUOR.

## WEST AFRICAN MEDICAL SERVICE.

*To the Editor of* THE LANCET.

SIR,—I have heard from two sources that my name has appeared in your paper as having resigned, or been retired from, the colonial service. Will you please have this contradicted at once. I have neither resigned nor been retired. On the 28th inst. I return to my duties in West Africa. I am, Sir, yours faithfully,

March 17th, 1908. CHAS. R. CHICHESTER.

*** We insert Dr. Chichester's letter with pleasure. The notice of his retirement, which we published in THE LANCET of Feb. 8th, p. 473, was sent to us in an official document from the Colonial Office dated Jan. 24th.—ED. L.

## "AN OFFENCE UNDER THE LUNACY ACT, 1890."

*To the Editor of* THE LANCET.

SIR,—I notice that you only give in your issue relating to this case the statements of the prosecution. There was no question of "suggested defence of ignorance." I maintain that on Feb. 26th, 1907, Ethel May Davies was, in my opinion, not a certifiable lunatic according to the Act. When I saw her two days after this her condition had changed and at my request the person in charge communicated with the mother of patient to that effect, instructing her to place the case in an asylum. No attention was paid, and I here emphatically state that all my responsibility ceased. I did not see the patient for six weeks after this time.

The reason I was found guilty of a "technical breach of the law" is as follows. The original summons was for aiding and abetting and procuring some one to take care of, in an unlicensed house, an alleged lunatic. When the prosecutors became aware that I had a complete answer to such a charge by doing my best to get the Act complied with by the mother the summons was amended and made "continuous"—in other words, the fact that the patient *ultimately* became insane and remained in the home to which I advised her being placed made me responsible of a "technical breach of the lunacy law." It was not a question of ignorance, as I do not admit this in any way, and I must ask you to contradict this. As I was informed at the commencement of the case as to the decision on this technical point there was absolutely no use in any defence being set up. The case was decided *ex parte*; my evidence would have shown conclusively that the patient was not insane on Feb. 26th, 1907, that the lady who had care of the case did not make the statements which are alleged against her and to which great prominence is given in your issue. That she held the highest testimonials from official visitors as to her capability to take care of patients, having held the position of committee of several Chancery patients. Also the fact that from first to last I had no interest in the patient or home in any way financially and never received, directly or indirectly, any payment, gratuitous services being given.

I am, Sir, yours faithfully,

Burwood-place, W., March 18th, 1908. FORBES WINSLOW.

## THE VENTILATION OF THE HOUSE OF COMMONS AND INFLUENZA.

*To the Editor of* THE LANCET.

SIR,—I have read the article in THE LANCET of Feb. 29th, p. 652, upon the above important question, and also have in mind complaints of the bad condition of the atmosphere of other buildings—the Law Courts, Old Bailey, &c.—by all who have to be in these buildings, even for a part of the day only, and these complaints and your very practical remarks confirm an opinion I have long held, in that all the systems that have up to the present been adopted fail because they are not sufficiently automatic, so that when the atmosphere becomes unpleasant it shall be quickly purified without causing a reverse, the result of which is often as bad as, or worse than, the cause of the original, and the incoming air is injected with too much force, or too hot, or too cold.

Of course, one has to consider constructional difficulties engineers have to encounter, especially from the architectural point of view; it ought not, however, to be impossible to ventilate buildings by a system such as I venture to suggest. In my humble opinion the remedy will never be accomplished all the time reliance is made upon velocity or quantity of air injected or ejected. With respect to your query could the House meet in the open air, I think members would suffer almost as badly when the atmosphere was abnormal either way if they occupied the area of paved ground. I am, Sir, yours faithfully,

Ebury-street, London, S.W., March 10th, 1908. D. T. BOSTEL.

## THE CRITIC ON THE HEARTH.

*To the Editor of* THE LANCET.

SIR,—A movement is being organised in London with the object of persuading urban authorities throughout the kingdom to penalise the emission of smoke from domestic as well as industrial chimneys. The use of smokeless fuel is already enforced in New York and nearly all the great cities of America. The adoption of a similar regulation in this country, although long desired by sanitary reformers, has been prevented hitherto by the Englishman's devotion to the open hearth. It is urged that this obstacle has now been overcome not only by the improvements in gas and electric fires both for cooking and heating, but by the successful adaptation of open grates to the smokeless consumption of anthracite and other varieties of hard coal, and by the introduction of coalite, a fuel consisting of soft coal purged of the products which ordinarily hinder combustion and pass up the chimney as smoke.

Mr. Ollis, chief officer of the public control committee of the London County Council, in a report which he has just submitted to that body, says: "If it is not practicable to wean the Englishman from his love of the open fire, it does appear possible for him to be supplied with a fuel ..... the use of which will not foul the atmosphere." It is probable that the Council will take some steps in the direction of encouraging the use of smokeless fuels in domestic grates, but a number of sanitary reformers are pleading for a compulsory ordinance which, they aver, could now be enforced to the great benefit alike of the urban community and the individual consumer; and to this end a vigorous campaign is to be undertaken in London and the other great cities of the kingdom. I am, Sir, yours faithfully,

March 9th, 1908. M.D.

## SMALL-POX AND DISINFECTION ON BOARD SHIP.

*To the Editor of* THE LANCET.

SIR,—An epidemic of small-pox occurred recently on a ship of which I happened to be medical officer. We were detained for some days at the quarantine station and during this time the whole boat was very thoroughly disinfected with formaldehyde. Can you or any of your readers refer me to articles or records of experiments which indicate the value of this agent used in such circumstances? I am led to ask because of the following somewhat curious fact. The ship was infested with large numbers of cockroaches (not the ordinary one seen in our kitchens but a smaller,

brown species, the scientific name of which I do not know). These insects, though causing no real inconvenience, were in the habit of walking about our cabins with an annoying air of ownership. Our efforts to get rid of them were fruitless and we congratulated ourselves that in formaldehyde they would at last meet an enemy whose attack they could not survive. After my room had been subjected to the disinfectant for over 16 hours the fumes were still so pungent that not for some minutes subsequent to the opening of the doors was I able to go inside. Then I saw five or six cockroaches in various places all lying still and apparently dead. Within a few minutes, however, they began slowly to crawl away and before long had quite recovered their normal activity. My brother officers noticed exactly the same thing happen in their rooms. I wondered, and am still wondering, how the organisms or materials which it was assumed might convey small-pox fared when the insects were inconvenienced to such a slight extent. Is there any reason to think that disinfection of this kind is of any real value? The technique, I am sure, was very thorough. I might add, if it is of any interest, that among 24 Europeans on board who had been revaccinated there was one mild case of small-pox, and of six who had not been done since infancy only one has up to the present escaped the disease.

I am, Sir, yours faithfully,

March 16th, 1908. J. F. B.

## MEDICAL OFFICERS AND THE TERRITORIAL FORCE.

*To the Editor of* THE LANCET.

SIR,—Perhaps some of your readers could give some reliable information about the following points as regards service in the "Territorial Army."

1. In transferring from a regimental unit, e.g., as a medical officer to a Volunteer battalion can one transfer with, and retain, one's rank and seniority when exchanging into a "field ambulance"—whatever that may be—as I have been asked to do?

2. What pay and allowances are we as officers of the Territorial Army to draw when undergoing training in camp? Is there to be any distinction other than that of which branch of the service is concerned—e.g., is my *confrère* in the Yeomanry as medical officer to draw 25*s.* a day pay and allowances, in the Militia his Militia pay, and the unfortunate Volunteer officer to be fobbed off with a visionary grant of 8*s.* a day—a grant which he never touches and which in the case of a medical officer does not even pay for his locum-tenent?

3. In the case of officers of the Territorial Army being embodied or called out in a national emergency will they still be entitled to the gratuity of £100 a year over and above their pay—with a subsequent £100 or £50 per annum, as laid down in the allowance regulations? Will these paragraphs be retained and is it intended that they should be so?

4. Will officers of the Territorial Army take rank and precedence according to their respective position in the Army List or will the present vogue be maintained—i.e., "with but after"? Will a captain of Volunteers say of eight or ten years' service find himself junior to a captain of Militia or Yeomanry of possibly a week's service?

5. In the event of officers being embodied in a national emergency and so serving with regular troops, will they be gazetted to temporary army rank, and if so will the gazette be published in reasonable time and not be kept back and then antedate some two years?

6. In the event of honorary rank in the army being conferred at the conclusion of any such emergency will all officers employed share alike—whether of Militia, Yeomanry, or Volunteer origin? In the South African war all Militia officers received honorary rank, whether employed at home or abroad, but only those Volunteer officers who served abroad received this reward, and thus though I served at home for five years with the A.M.S. and R.A.M.C. I have nothing to show for it.—I am, Sir, yours faithfully,

March 16th, 1908. A.M.R.

*** The rates of pay were published in THE LANCET of Nov. 2nd, 1907, p. 1271.—ED. L.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.—The annual general meeting of the Medical Graduates' College and Polyclinic will be held at 22, Chenies-street, London, W.C., on Friday, March 27th, at 5 P.M. Dr. C. Theodore Williams will occupy the chair.

## THE ORGANISATION OF THE MEDICAL PROFESSION IN FRANCE.

(FROM OUR SPECIAL COMMISSIONER.)

THE UNITY OF INTEREST BETWEEN THE PATIENT AND HIS MEDICAL ATTENDANT.—THE EFFORT TO FREE THE MEDICAL PROFESSION FROM POLITICAL INTRIGUE.—THE DIFFICULTY OF APPEALING FROM THE MEDICAL PROFESSION TO THE GENERAL PUBLIC.—A REACTION AGAINST THE MEDICAL DEMANDS.—THE ABUSES COMMITTED BY MEDICAL OFFICERS AND ALSO BY LOCAL AUTHORITIES.—ACTION OF THE MEDICAL SYNDICATES TO CONTROL THEIR OWN MEMBERS.

Paris, March 7th, 1908.

THE various accounts published in these columns concerning the organisation of the medical profession contain frequent allusions to the demand made by medical practitioners that the patient shall always have the right to select his own medical adviser. Formerly when medical men were only called upon by the authorities to give expert advice or evidence the matter was left to their discretion. Whatever service the State, the local authorities, or the police might require a medical man to render, such service did not constitute a serious form of competition against other practitioners. To-day, however, the position has changed and even greater changes are likely to occur in the near future. This is due to the ever-increasing number of new laws which in France are very appropriately described as laws of social solidarity. But the problems created by such legislation do not affect France alone. Similar laws have been enacted in all countries and they are numerous in Great Britain. Therefore, what is said and done in France in regard to these matters applies also to Great Britain, so far at least as the general principles at issue are concerned, and also in regard to many of the details. The whole series of articles on the "Battle of the Clubs," as waged in England, contained protest after protest against the destruction of the medical practitioner's independence by making him the salaried employee of a federation of benefit societies, of a club, or of an insurance company. The degrading effect which this had on the exercise of the practice of medicine was pointed out over and over again. To-day our French colleagues are energetically protesting that the new laws will bring into existence an army of medical State functionaries; and, whether the salary be paid by the State, the municipality, or a mutual benefit society or club, the medical man loses his independence and the patient his freedom of choice.

"Freedom of choice" has thus become the battle cry of the medical profession. But it is earnestly urged that this is no selfish class cry. The necessity of such freedom is as pressing so far as the interests of the general public are concerned as in regard to the special and personal requirements of medical practitioners. The interests of the public are not difficult to define. The public desires to enjoy good health and to be cured as rapidly and effectively as possible when ill. For this the public is obviously concerned in medical education and in placing the medical practitioner in such a position as will enable him to develop his art and to acquire the greatest possible skill. Then the patient, when he is ill, naturally desires to consult the practitioner in whom he has the greatest confidence. Obviously, if a patient dislikes or has some prejudice against a particular practitioner he had better consult someone whom he finds more sympathetic. The benefit society, however, compels the patient to call the medical officer who is in its service and thus destroys free choice. To-day this evil may be seriously extended by the action of new laws on accidents, on poor relief, on compulsory insurance, or, as in England, on employers' liability, which make employers rather than the workers insure, and similar legislation. Such measures are calling into existence a large number of State or municipal medical functionaries, and once a medical practitioner is in receipt of a regular salary from one of these public bodies he can take matters easily. In many cases politics rather than medical skill would be the surest road to success. Of this we have painful experience in Ireland. How many Roman Catholic medical men are employed as dispensary surgeons in Ulster and how many Protestants in the dispensaries of the Roman Catholic parts of Ireland? What chance would a Roman Catholic and Royalist medical man in France have of obtaining a medical post from a Freethinking and Republican municipality? But all this is theology and politics and the sick man wants

medicine. The political or religious opinions of the medical attendant cannot be of much concern to the patient; and the medical profession in France, by their determined effort to exclude political considerations from medical practice, are rendering quite as great a service to the public at large as to their own profession. The public interest is to see that medical men have every incentive and every opportunity of increasing their knowledge and ability; medical practitioners should make themselves popular by reason of the cures which they effect and not because of their political views and the political patronage they are able to secure. The number of patients whom they attend, the income which they earn, should depend not on an appointment obtained at the hands of politicians and given possibly in exchange for some political service, but on their success in the treatment of disease.

The organised members of the medical profession in France, acting through the medical group in the National Assembly and the Senate, have been able to introduce clauses in laws recently adopted that safeguarded the great principle of the free choice of the medical attendant. In the law on accidents Dr. Diverneresse presented and secured the adoption of Article 30 which makes it a penal offence for anyone to attempt to prevent the victim of an accident freely choosing his medical attendant. And further, should the responsible employer or insurance company desire to inquire into the case the medical man whom they may appoint for that purpose must invite the practitioner who has the case in hand to meet him.[1] Unfortunately, a reaction is now taking place which threatens the position but recently acquired by the medical profession in France. Such reaction is more readily provoked because the medical men have no organ to represent them, they have no means of explaining their position to the general public. There are so many medical papers in France that they impoverish each other and mutually destroy each other's influence. They are rarely quoted by the leading political papers; and, worse still, they do not, as a rule, attend to the general, ethical, and economical interests of the medical profession. Thus when the medical profession is attacked before the general public it has very few weapons wherewith to defend itself. In England the leading medical journals are to be found in the editorial offices of the leading political newspapers and are consulted when medical questions arise that concern the general public. This is not so in France.

Dr. Diverneresse, who took so prominent a part in fighting these questions in the French Parliament as a politician, naturally feels more keenly this want of press and popular support than the general run of practitioners. At the last annual and general assembly of the Union of the Medical Syndicates of France he spoke strongly on the subject. How were the public on whom the ultimate decision depends to be instructed and made to understand the points at issue? For the large towns there were medical men who possessed the gift of eloquence who could attend public meetings and explain matters, but in rural districts this was not possible, there were not the speakers or the meetings or the audiences which they could address. As illustrating the stress to which the medical profession is put when it seeks to influence the general public the following remarks made by Dr. Diverneresse are instructive:

> It would, I think, not be very difficult in rural districts to find persons who are fond of public speaking and who, for quite a modest sum, would be very pleased to deliver lectures, in the course of which they would explain that in sickness, as in other circumstances, the member of a benefit society who was treated for ten sous (5*d.*) could not expect more than ten sous' worth of treatment. I believe that if in such circumstances we made use of the sentiment which constitutes the strength of all religions—namely, the fear of death—we could easily convince the public as to the necessity of preserving for each patient the freedom to choose his medical attendant.
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> Then there is also the local press; in all small towns there are three or four newspapers which spend their time in abusing each other and saying rude things because they must fill up four pages of print. These papers are often short of material and if medical men would send them articles, which, however, they should not sign, which dealt with questions of principle, they would find in these local papers a powerful means of propaganda.
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> There exist another means—that is, the great press. When one has money it is possible to obtain the publication of anything. The most reactionary newspapers will publish a most revolutionary article if they are sufficiently paid. We cannot pretend to do this, but there are papers which, like certain commercial firms, are not in a flourishing condition, and we might with the subscription of the syndicates of the Union succeed in collecting some £160 to £200 and propose to some newspaper to give us two to three columns a week to treat social medical questions, problems interesting the sick, and to explain the position of the medical profession and its legitimate claims.

The above words will read strangely in England, where the position of the press, both political and technical or scientific, is fortunately very different. But at the same time the medical profession in England is likewise in need of a better understanding with the general public. The agitation against vaccination and against vivisection, the sympathy often expressed in favour of some forms of quackery, and then the economic problems arising, especially out of contract work, have led to the utterance of opinions more or less unfavourable to the medical profession that were all based, not on any inherent antagonism but on ignorance of the points at issue. Frequently disputes have arisen in England concerning generally a club or benefit society which the members of the public concerned have not properly understood and the medical practitioners have been unjustly blamed.

At the same time it must not be imagined that the medical men are themselves absolutely blameless. In France the chief objection to the principle of the freedom of choice is the extra expense which it occasions, not merely in regard to the fees paid to the medical attendants but more especially in respect to the cost of the drugs. It was therefore only natural to expect that medical men would be careful to avoid unnecessary expense, but in practice this has not proved to be the case. Dr. Millon has issued a pamphlet giving some figures. In the department of the Cher, when the contract system of attending the poor prevailed, the poor relief medical officers received in 1896 the sum of 22,920 francs and the drug bill amounted to 22,692 francs. In 1905, however, they received 27,000 francs, which was a legitimate increase, but the cost of medicines was 48,220 francs and it does seem as if there was here some carelessness. In the department of the Nièvre, during the free choice system, in 1896 there were 15,679 persons inscribed as entitled to medical aid at the public expense. To attend these persons the medical practitioners received in fees 25,620 francs and the medicaments cost 27,582 francs. In 1900 only 13,278 poor were inscribed but the medical poor relief officers received 38,227 francs and the drug bill rose to 58,256 francs. This was the maximum and since that date the expenses in regard to medical fees and drugs have been reduced but not very much. Both the prefect and the medical syndicate had to interfere. In the Haute-Garonne under the contract system the pharmaceutical expenses amounted in four years (1897 to 1900) to 319,938 francs. Under the free choice system in four years (1901 to 1904) they amounted to 387,278 francs, or an average annual increase of 16,835 francs. As a result the authorities insist on reverting to the old system of contract. In the Puy-de-Dôme the free choice of the medical attendant is replaced by the annual choice of the medical adviser. Also the patient must obtain a special ticket for each consultation and a maximum price is set on every prescription given. All this is due, in most cases, to carelessness but in some cases to a deliberate desire on the part of the medical attendant to make himself popular and to increase his income even though this be at the public expense.

Dr. Huchard, in a recent clinic at the Necker Hospital, said: "I am for ever repeating that therapeutic requirements can generally be met by 15 to 20 good medicaments which are well known for their physiological action and in regard to the doses and method of administration necessary." Dr. Diverneresse, on his side, protested that if a patient is suffering from an attack of pleurisy he may need 10 to 15 visits from his medical attendant but not 50. To call so often on a patient is an obvious abuse and such abuses gravely compromise at once the interests and the reputation of the medical profession. So it comes to this, that the medical profession, by uniting and forming powerful medical syndicates and by creating a medical group in the Parliament and Senate, have succeeded in so influencing the national legislature and the local authorities as to legalise the principle of leaving the patient to choose his own medical adviser in cases of accidents covered by the State law on the liability of employers. Then in regard to the medical relief of the poor the details are decided by the local authorities and there also the same principle has been enforced in many departments, and, as recently described, a big fight is proceeding over the question in the department of the Somme.[2] But now the medical organisations have to turn their attention from the public bodies to the rank and file of their own profession so as to check the abusive use

[1] For fuller details see THE LANCET, Jan. 25th, 1908, p. 252.

[2] THE LANCET, March 7th, 1908, p. 747.

of the advantages secured. At the last general assembly of the Union of the Medical Syndicates of France it was decided to recommend that medical committees should be appointed by the prefects from lists of candidates presented by the local medical syndicates. The mission of these committees would be to verify the charges made for medical attendance and for medicaments. Dr. Deslandes, however, pointed out that the medical practitioners rarely visited their patients more frequently than necessary. There was a slight but, on the whole, a justifiable increase, a little more attention was paid to the patient than under the contract system, and this is no grievance but an advantage. The legitimate grievance is in regard to the drug bill. Dr. Deslandes said that he had studied a great number of accounts and he found that where in a department the fees for medical poor relief had augmented by 2000 francs the cost for drugs had increased by from 20,000 francs to 30,000 francs.

The above proposal was approved but it was also suggested that the committee of control, when appointed, might see that there were no abuses committed by the authorities themselves. If the medical man to increase his popularity visited a patient once or twice more often than absolutely necessary and was too lavish in prescribing drugs, bandages, &c., the municipal councillor in his anxiety to secure his re-election and to augment his popularity might not be very careful as to the persons whom he caused to be put down as entitled to medical relief at the public expense. Sometimes such persons were well able to pay the usual medical fees and this would be more advantageous to the medical profession while saving the taxpayers' money. One district is mentioned where the entire fire brigade has been inscribed as entitled to gratuitous medical relief. Some of the firemen are doubtless very poor but this is certainly not the case with the entire brigade. Then there is a village consisting of 40 families and 35 of these families are entered on the list of indigent persons entitled to free medical relief. In another place all the members of the municipal council have enrolled themselves on the free list and as being poor enough to be treated when ill at the public expense; Dr. Gassot said he knew of a place where, out of about 6000 inhabitants, 5000 were inscribed as indigent. Thus there have been some faults on all sides; and if some of these defects are attributable to medical practitioners, it is satisfactory to see that the medical profession in its collective and organised capacity, as represented by the national union of its syndicates, is determined to put down all such shortcomings and thus to maintain its honour and integrity.

## SPENGLER'S INOCULATION TREATMENT OF TUBERCULOSIS.

(FROM OUR BUDAPEST CORRESPONDENT.)

Dr. Josef Hollós, chief physician of the Szeged County Hospital, has been making an extensive investigation of Spengler's inoculation treatment of tuberculosis. The experiments were begun in February last and Dr. Hollós has made public a full description of his observations, a *résumé* of them being as follows. 1. The Spengler treatment is not suitable for cases accompanied by high fever and impaired heart action, neither is it suitable for patients whose pulse-rate is persistently over 120, although the physical signs may be slight. Those uncommon cases in which the so-called "hypersensitiveness" is present may be treated in this manner only with the greatest caution. In these cases instead of the injection of the vaccine it is advisable to rub in minimal doses of the substances contained in the culture bouillon, whereupon the hypersensitiveness ceases. 2. The most satisfactory results are obtained with the recent or subacute infections, for in them recovery follows very quickly. The following is an example out of the numerous successfully treated cases quoted by Dr. Hollós. The patient was a man, aged 34 years. He had suffered from cough for the last six years. He was greatly emaciated and very weak and had been unable to work for a year. The quantity of sputum brought up in a day was from 80 to 100 cubic centimetres. From July 1st till August 1st he was under Professor Spengler's treatment at Davos, in Switzerland. Before the treatment 12 tubercle bacilli could be seen at one time in a microscopic field. A second course of treatment was undertaken by Dr. Hollós in October. At that time the patient was ill nourished and in an unsatisfactory condition. There was dulness over the upper lobes of the lungs and over the whole lungs there was harsh breathing with vesicular râles. The daily amount of the sputum excreted was from 15 to 20 cubic centimetres. Some microscopic fields contained five tubercle bacilli, while in others there were none. The sheath of the bacilli was mostly injured. After the treatment the daily quantity of the sputum was from five to six cubic centimetres, it was free from tubercle bacilli, and the patient felt well. Since that time (September) he has been able to follow his employment continuously. Standing at his work does not fatigue him. He coughs very little and can walk three or four hours every day without feeling the least discomfort. 3. In severe chronic cases a system of treatment is needed in which the first series of inoculations is succeeded by a second one after three months, but there is evident improvement even after the first course of treatment. This is manifested in the diminution of the cough, the expectoration, and the respiratory difficulties. The patient's weight increases and the number of bacilli decreases. 4. The toxic symptoms of tuberculosis disappear. These are very often present in latent tuberculosis and are so characteristic that the presence of tuberculosis can be diagnosed from them. The subjective symptoms include chronic anæmia, headache, fainting, loss of appetite, sleeplessness or restless sleep with unpleasant dreams, frequent palpitation, night sweats, and dysmenorrhœa. A considerable proportion of cases of anæmia, neurasthenia, and dysmenorrhœa are nothing more than toxic symptoms of latent or manifest tuberculosis. Among these dysmenorrhœa deserves particular attention because in such circumstances the etiology of this condition has up to the present time been quite unknown. Dr. Hollós has now had under his care about 20 such cases, in which the dysmenorrhœa ceased after the application of Spengler's treatment. 5. Veiled latent tuberculosis frequently occurs in families in which one of the parents is suffering from mild chronic tuberculosis. These patients mostly cough during the winter. Their sputum contains only few bacilli. They call their disease "catarrh," "asthma," or "cold." The few bacilli give rise only to a slight infection in the children and the disease remains latent, manifesting itself only in periods which may be as long as ten years. Thorough examination of numerous families is quite convincing as to the truth of this statement. In families where the children suffer from the different forms of the so-called surgical tuberculosis the parents are not infrequently affected with bovine tuberculosis (*Perlsucht*). This disease is not very uncommon. The hæmorrhagic forms are in the majority of cases perlsucht infections, in which the bacillus of bovine tuberculosis is present either alone or in association with the bacillus of human tuberculosis. Not only Professor Spengler's statements but also the experiences of Dr. Hollós agree on the point that the best remedy for pulmonary hæmorrhage is the injection of tuberculosis vaccine. In all the cases observed by Dr. Hollós the treatment was carried out whilst the patient was continuing to follow his employment. The results have been very favourable, although the patients were drawn from a section of the population to whom sanitary dwellings and hygienic living are quite an unknown conception. The results would probably have been even better if the patients had belonged to the well-to-do classes who can carry out all the instructions of their medical advisers.

The treatment consisted only in the systematic administration of the injections. Dr. Hollós expects that further experience of the Spengler inoculation treatment will cause a great change in the method of dealing with tuberculous patients, for the severer cases will probably be admitted into the sanatoriums for the sake of isolation, while those whose symptoms are mild will be treated at their own homes and will continue to work for the support of their families.

## BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

*The Hamstead Colliery Disaster.*

THE serious accident which has caused so much sorrow and mental anguish in our immediate neighbourhood has cast a gloom over the city and district and has made many people ask how it is that so little effective succour is available when colliery accidents occur. Around us are many mines in which accidents may occur at any moment, yet there is not

in the whole district a rescue station such as that established in Yorkshire. Surely it might be possible to establish a body of volunteers willing to be trained in rescue work and available at an instant's call? The University, which has always shown itself ready to join in all plans advantageous for the district, would no doubt be willing to play its part, and a corps established in association with it might be properly trained in the use of, and equipped with, the necessary apparatus. It should not be difficult to familiarise the members of such a corps with a sufficient knowledge of the surrounding mines, and if such a well-trained and properly equipped body existed the life toll demanded by our mines might be much reduced in future years.

*The Annual Report of the General Hospital.*

The summary of the year's work of this hospital shows that the number of in-patients treated during the year 1907 was 5568—that is, 364 more than in the previous year—and the daily average was 305, as contrasted with 304 in 1906 and with 291 in 1905. There were 62,102 out-patients, that number being 3305 less than in 1906 and 450 less than in 1905, the diminution being mainly due to a reduction in the number of out-patients accepted without tickets. In submitting its report the board of management pointed out that on the recommendation of the medical committee it had instructed the visiting and resident medical and surgical staff to give first-aid to trivial cases and then refer them elsewhere, and also to refer chronic cases which do not require treatment by the hospital staff to practitioners, clubs, dispensaries, and the Poor-law authorities. During the year the staff has been rearranged by the transformation of casualty assistant surgeons into assistant surgeons and surgical casualty officers are to be appointed to deal with surgical casualty cases. The rearrangement and alteration of the operating theatres foreshadowed in last year's report has been carried out and the operating work has been facilitated. This was absolutely necessary in view of the increasing number of operations, which in 1905 were 3326, in 1906 3344, and last year they advanced to 3853, an increase of over 500 in three years. The total expenditure for the year was £24,978 and the deficit was £3025, making a total deficit of £7698. The board admits that, recognising the increase of expenses necessarily associated with increasing work, and particularly with increasing operative work, it views with concern the continued falling off of subscriptions. In 1905 they fell off to the amount of £181, in 1906 £106, and last year there was a further fall of £88.

*The Annual Report of the Queen's Hospital.*

That portion of the annual report of the Queen's Hospital which deals with the number of patients shows that during 1907 the number of in-patients was 2485 and out-patients 35,413, the former having increased by 178 and the latter by 200 as contrasted with the numbers of 1906. Naturally associated with the increased work there was increased expenditure which reached a total of £12,786, or £1031 more than last year, whilst the income was only £395 more than in the previous year. Before the new buildings can be opened free from debt a further sum of about £15,000 is necessary, and when the new block is at work it is estimated that an additional income of £2500 will be required. When it is remembered that the children's hospital is going to appeal for a large sum, that many other public institutions are calling for monetary aid, that trade is declining, that expenses are increasing, and that there are doubt and fear in financial circles and in many trades and industries, the outlook of charities which require increased financial aid is not for the moment particularly hopeful.

*The Walsall and District Hospital.*

It is obvious from the annual report that the Walsall Hospital has before it a difficult period and the utmost efforts of its friends will be needed to enable it to continue steadily on its path of continually increasing usefulness. During the past year the increased accommodation has enabled the average daily number of patients to be raised from 45 to 53, with a consequent increased expenditure of £1190, whilst the income unfortunately has only increased by £250. The committee holds out no hope of a reduction in expenditure so long as advantage is taken of the new accommodation, and it has decided to restrict the number of beds in use, but even with the restrictions imposed the cost of the increased number of patients can only be met by an additional income of £600. The committee hopes that now the facts are clearly before the public the necessary response will be made, but if it is not then the scope of the work will have to be diminished.

March 17th.

## MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

*The Infirmary Site.*

JUST as the public mind was settling down to the idea that the infirmary site should be devoted to an art gallery and free library another proposition has been brought forward which seems to have aroused some interest. The Exchange here has become too small and unless removed to another site will have to be greatly enlarged by absorbing, as it may be called, a street or two and other property. The suggestion is that the Exchange and the Art Gallery and Library should change sites and if necessary that the latter should be enlarged as much as necessary. No doubt the Piccadilly site would be excellent for the Exchange but as regards the Library and Art Gallery there would be less light, as there would be buildings all round instead of a fairly open space.

*Ladies' Health Society.*

The Eccles town council came to the very sensible decision the other day to appoint a second woman visitor in connexion with the Ladies' Health Society and to increase its subscription to the society from £50 to £100 a year. Reference was made to the business-like way in which the operations of the society were carried out. The visitors are to receive their instructions from the medical officer of health, Dr. W. M. Hamilton, as is the case in Manchester, where the work is done in coöperation with Dr. J. Niven.

*Coroner, Druggist, and Patient.*

At an inquest held about a week ago a conversation took place between Mr. Gibson, the coroner, and the witness, a druggist, on the duties of the latter. Mr. Gibson said that the boy who died was suffering from pneumonia, "but you (the druggist) could not tell that. If you had not given a powder a doctor would in all probability have been seen and the child might have been saved." To this the druggist replied that a customer comes and says she wants a powder as the child's stomach is upset. "If I don't serve her she would think me churlish and go somewhere else and she would be served." The coroner said that he was strictly within his rights in selling what was asked for and he did not consider that there had been a breach of duty in any way. This no doubt is perfectly good law, but the present case is only one illustrative of a widespread but bad practice. The druggist is in a dilemma: he cannot be sure of the accuracy of the mother's diagnosis and must be conscious that his powder, so far as he can tell, may be inefficient and useless, or it may be actively injurious. On the other hand, he may think that to keep his customers and to make a living is a duty owing to himself and he does not trouble about his own responsibility directly by selling something which may do harm, or indirectly by preventing the calling in of the medical man. The dividing line between what is safe and therefore allowable and what is dangerous is often faint and indistinct, but it would seem desirable that all acute cases should be seen by a medical man, rather than be left to the haphazard effect of a powder on an unknown patient in an unknown condition. Though evidently knowing the risks of this counter prescribing the coroner had to guide his course by the law as it stands.

*Health of Widnes.*

Widnes is not an attractive-looking place, for chemical works and the dwellings of the workpeople seem to have presented difficulties that the architects have not overcome in their attempts at making them things of beauty and joys for ever. It is interesting to notice, however, in the annual report of the medical officer of health, that 1907 was, so far as enteric fever was concerned, a comparatively healthy year, 15 cases only being notified, as compared with 67 in 1906. He attributes it to the wet cold summer and the consequent immunity from flies. The rainfall at Widnes may have been heavier than the average over the country generally, which was lower than usual. The summer was, no doubt, cold and cheerless and a large proportion of the rain fell in the day, which, of course, made what fell more noticeable than if a

larger proportion had fallen in the night. The report states that the death-rate for children under one year of age still stands at 143 per 1000.

March 17th.

## WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

*Baths for Colliers.*

ALTHOUGH there are very few colliery districts in South Wales which are lacking in public institutions such as reading-rooms, libraries, or clubs, there is everywhere a noticeable absence of public baths. The facilities, too, for the very necessary bath in the cottages are of a primitive type and usually consist of a wooden tub constructed from one half of a 40-gallon cask. Long fixed iron baths do not seem to be appreciated as might be expected, for they were placed a few years ago in some houses belonging to a colliery company in the Rhondda Valleys and most of the workmen continued to use their wooden tubs and adapted the baths as receptacles for coal. It is now being suggested that bathing arrangements should be provided at the pit-head and at one of the Ocean Collieries at Treharris, near Merthyr Tydvil, such provision is being made. There are not to be separate baths but a series of jets or sprays supplied with tepid water will be available somewhat after the plan adopted in some of the Swiss schools for bathing the children. The workmen will be allowed to leave their working clothes at the colliery provided they take them home at least once a week. The general adoption of this pit-head bathing cannot fail to have a good effect not only from a public health but also from a moral point of view, for where the only bathing room in a house is the kitchen there cannot be much seclusion.

*Medical Officer of Health of Monmouthshire.*

The Monmouthshire county council has elected as medical officer of health Dr. D. T. Rocyn-Jones who for the past nine years has been surgeon to one of the collieries in Abertillery. He has not hitherto held any public health appointment.

*Housing Exhibition at Swansea.*

Some progress is being made with the details of the exhibition of workmen's cottages which it is proposed to hold in Swansea in 1909. The site of 20 acres which will be utilised is the property of the corporation which will let it at an annual rental equal to 30*s.* per house. There will be about 12 houses per acre, including roadways. Prizes will be given for the best houses in three different classes. One to cost from £135 to £175, to contain two bedrooms, a large living room, a scullery, and a bath; a second to cost not more than £200, to contain an additional bedroom; and a third class to contain in addition to a third bedroom a parlour, the maximum price to be £225. A prize of £50 will be given for the best scheme of planning out the estate.

*Newport and Monmouthshire Hospital.*

One of the most striking features in the annual report of the directors of Newport and Monmouthshire Hospital for many years past has been the large proportion of the income which is contributed by the workmen of the town and neighbourhood. Last year out of a total income of £6690 as much as £1800 came from this source. The first systematic collections of workpeople were made in 1894 when £568 were subscribed, and in 1902 a serious deficit on the year's working was entirely wiped out by contributions from this fund. The number of in-patients treated at the hospital in 1907 was 1117 and the number of out-patients 6571, an increase in both instances upon the previous year.

March 17th.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

*The Representative of the University of Glasgow on the General Medical Council.*

Principal Donald MacAlister, President of the General Medical Council, has been appointed by the Glasgow University Court as their representative on the General Medical Council for five years from May next in the place of the late Sir Thomas McCall Anderson. Dr. MacAlister is at present the representative on the Council of the University of Cambridge.

*St. Mungo's College and Royal Infirmary, Glasgow.*

The University court last week received a deputation consisting of representatives from the governors of St. Mungo's College and the managers of the Royal Infirmary. At a recent date the Lord Provost of Glasgow, along with several governors of St. Mungo's College, went to Liverpool to study the working of the medical school in that city. As a result of that visit it was decided that the time had arrived for an approach being made to the University court by the governors and managers to confer with them on the subject of medical teaching, having special regard to the desirability of utilising the clinical material at the Royal Infirmary and the present position of St. Mungo's College. After some discussion the Principal thanked the deputation for their attendance and intimated that the court would consider what they had said and let them know the result.

*The Milk-supply of Glasgow.*

In Glasgow the necessity of an absolutely pure milk-supply has been brought very much before the public notice. That this can be attained only by more stringent regulations as regards inspection there can be no doubt, but in the meantime there are many precautions in the way of handling the milk which are optional to the vendor but which the public are beginning to recognise as a safeguard. The northern district committee of the Ayrshire county council did a good turn last week to the diary farmers of Ayrshire when they decided to erect two milk depôts within the district. To these depôts milk will be taken directly from the farms and put through a refrigerator before sending it to populous districts like Glasgow.

*Western Medical Society.*

The feeling has existed for some little time among the medical men resident in the western district of Glasgow that a society should be formed on the lines of those already existing in the northern, southern, and eastern districts of the city. For this purpose a meeting was convened by a provisional committee in the middle of January, when it was resolved unanimously that the project should be carried out and the Western Medical Society was formed. The enrolment of members has been extremely gratifying and already most of the medical men residing in the Partick, Whiteinch, Scotstoun, Jordanhill, and Hyndland districts have joined the society. The objects of the society are to afford members opportunities of meeting in a social capacity and to have meetings at regular intervals when matters of ethical and educational interest may be discussed. The following office-bearers have been appointed:—President: Dr. Arthur Mechan. Vice-Presidents: Dr. William Snodgrass and Dr. J. Gibson Graham. Secretary: Dr. A. W. M. Sutherland. Recording secretary: Dr. J. King Patrick. Treasurer: Dr. G. A. Allan. Council: Dr. J. Hamilton Campbell, Dr. W. A. Caskie, Dr. F. Gracie, Dr. James Hunter, Dr. D. J. Mackintosh, Dr. John Morton, Dr. James Scott, and Dr. David Westwood.

*The Hospital Deadlock at Dumfries.*

The Local Government Board has communicated with the public health committee of Dumfries town council regarding the deadlock which has occurred between the Dumfries town council and Maxwelltown town council as to the erection of an infectious diseases hospital for the two burghs. The local authorities failing to agree on the subject the terms of agreement have been adjusted by the Local Government Board. It has been determined that the cost of the hospital is not to exceed £6000, and that there is to be provision for not less than 20 beds, and two observation wards. The board of directors is to have power to appoint a physician, clerk, and other officials necessary.

*Falkirk Fever Hospital Inquiry.*

The Local Government Board has issued its report in the public inquiry held some time ago into the allegations of mismanagement and maladministration in Falkirk Burgh Fever Hospital. The inquiry was ordered by the Board at the instance of the Falkirk town council as the outcome of serious charges regarding the management of the hospital which were made by the Rev. W. W. Miskimmin, minister of the Congregational Church, Falkirk, in the course of his campaign at the last municipal election when he stood in opposition to Judge Flannigan, convener of the public

health committee, which has charge of the hospital. The conclusions of the Commissioners are as follows:—

1. The system of administration of the hospital prior to May, 1907, was not satisfactory. The responsible head of such an establishment should be the medical officer. That medical officer should be responsible to a hospital committee which should not consist of the whole town council. Visiting the hospital should be confined to members of the hospital committee, and only for the purpose of transacting necessary business. Every precaution should be taken on visits to avoid the risk of carrying infection.
2. The actual administration of the hospital prior to May, 1907, was unsatisfactory in respect of failure to provide the additional nursing asked by the medical officer and the insufficient method of checking the consumption of such articles as alcohol.
3. The actual management of the hospital by the former matron was lax and inefficient as regards the preservation of discipline and the admission of visitors.
4. Except to the above extent the charges made by Mr. Miskimmin in his public speeches and in his statement have not been proved.
5. In particular there is no evidence in support of the charges made by him against the medical officer and the convener of the health committee.
6. The hospital as now reconstructed and reorganised is efficient and satisfactory and should those recommendations in our first conclusion which have not yet been adopted be brought into force we have no doubt but that the hospital will be usefully and creditably managed.

*Medical Officer of Fifeshire.*

Dr. Thomas F. Dewar was appointed medical officer of Fifeshire on March 10th by the county council. Dr. Dewar was formerly medical officer of Forfarshire, and is an M.D., C.M., of the University of Aberdeen. The salary attached to the office is £300 per annum with an additional £50 for each of the four districts in the event of his being appointed medical officer by them. In the event of his being appointed for Kinross the salary would be fixed by arrangement with the Fife County Council.

*Aberdeen Dispensary.*

The annual meeting of the supporters of the Aberdeen Dispensary, Maternity Hospital, and Vaccine Institution was held on March 5th. During the past year the dispensary receipts amounted to £905 and expenditure to £1245, and the maternity hospital receipts to £365, and expenditure to £759, making a total deficiency of £2191. The daily average attendance, excluding Sundays, was 182. It was decided to appoint a resident medical officer at the maternity hospital, and Mr. A. R. Laing, M.D. Aberd., was appointed a medical officer to the institution.

*Royal Hospital for Sick Children, Aberdeen.*

The thirty-first annual report was submitted at the annual meeting on Feb. 25th. 770 patients have been treated during the year 1907, the average stay of each patient being 33·04 days. Of these, 464 recovered, 109 improved, and 71 died; the remainder were still in the wards or were removed as unfit. During the year 1777 out-patients were treated. The ordinary expenditure for the year was £2920, an average annual expenditure of £41 7*s.* per occupied bed, making a deficit for the year of £282. Reference was made to the growing need for the provision of a new hospital building and during the year the directors have been investigating the possible advantages of certain sites.

*Annual Health Report of Elgin.*

At a meeting of the Elgin town council on Feb. 24th the annual report of the burgh was submitted by Dr. W. Mackie, the medical officer. From various statistics he concludes that the inhabitants are living under vastly improved conditions compared with what was the case in the year 1901 when the number of persons per inhabited house was 4·95, while in 1907 it was reduced to 4·49. The general infantile death-rate is much the same as it was last year, being 124·36 per 1000 births for this year as against 125 for last year. A special hospital for small-pox has been built but has not yet been opened. During the past year the demands on the general infectious diseases hospital have been in excess of those of any previous year, not so much from an increase of infectious diseases as from the growing tendency for cases to go to hospital, though the wards were never more than half filled through the year. A small observation ward for doubtful cases would be an improvement to the equipment. During the year 22 cases of pulmonary tuberculosis were notified, of which seven have died. Voluntary notification has been in force since October, 1906, during which time 40 cases have been notified. One or two points have been noticed during that period: 1. That though disinfectants are supplied free and sent out along with directions regarding their use by the sanitary authority to all cases where the medical attendant has intimated a desire that they should be supplied a second supply is very seldom sent for, the natural inference being that disinfection of sputum is not kept up. 2. That in the majority of cases disinfectants are not asked for or supplied. It is hoped, however, that disinfectants are in those cases in use and that their use is insisted upon by the medical attendant. 3. That in a number of instances notification of the case and the death certificate have been received within a day or two of each other. In these cases the medical man had only been summoned when the patient was *in extremis*.

March 17th.

## IRELAND.

(FROM OUR OWN CORRESPONDENT.)

*Hospital Abuse in Dublin.*

IN Dublin, as in many large medical centres, the supply of medical men is much greater than the demand, but it exists side by side with the usual call for gratuitous medical service, so that the number of hospitals is proportionally greater than in other cities, while the number of applicants shows a corresponding excess. As a result the finances of the profession as a whole suffer greatly and in a daily increasing degree. New specialist departments are being continuously created in connexion with the large teaching institutions and the appointments to these posts are sometimes much criticised, while new private ventures in specialism are springing up under the more enterprising of those who are provided with the needful money. There are so many hospitals, general and special, among us that no applicant for gratuitous medical treatment can fail to have the request gratified. For the Irish—all history of agrarian agitation and cattle-driving notwithstanding—are instinctively charitable and sympathetic, and probably the most ready of all people to respond without hesitation to the cry of suffering or distress. As a result there exists an extreme aversion to making any preliminary inquiry into the financial position of a patient seeking professional aid at a public hospital—before all things a purely benevolent and charitable institution. And the chronic patient who has got to know the ways of these institutions always knows that if his claims are likely to be rejected at one institution they will receive welcome at another. The necessary result of the present conditions is that the average well-to-do artisan, or clerk, or shop assistant who is in receipt, respectively, of a fair income avails himself, without having to respond to any queries regarding financial or social conditions, of the gratuitous medical relief which was originally and justly intended for the advantage of the pauper class only. Not merely is this the case but those who thus enjoy that to which they have no just title and which should be rigidly forbidden to them come, after the experiences of a short visiting acquaintance, to regard themselves, in right of social position and personal habits and deportment, as more worthy subjects of personal attention in the extern department than the members of the utterly destitute and ragged class who are there waiting with them. And unfortunately they receive far too much encouragement in this delusion. The resident medical officers and clinical clerks who minister gratuitously to the medical needs of the nominally impecunious frequently show that personal contact with members of the class to whom we refer is less irksome than in the case of those for whom alone gratuitous medical relief was primarily intended. And if one hospital at length closes its doors to a persistent beggar a neighbouring one will assuredly not refuse hospitality. And even if one member of a hospital staff declines to receive a patient his colleague may do the reverse. And professional incomes dwindle!

*The Lady Superintendent Nurse of the Belfast Workhouse.*

Another scene in the comedy between the Local Government Board and the Belfast guardians was enacted on March 10th, when the former wrote to the guardians requesting them to be "so good as to take the necessary steps for filling the vacancy that exists in this important position" (i.e., lady superintendentship of nurses). The guardians thereupon passed a resolution by 23 to 16 votes "to take no further steps in the matter."

*Health of Belfast.*

For the week ended March 7th the death-rate from all causes was 29·6 and 2·9 from the principal zymotic diseases. The death-rate from chest diseases was actually 13·5, being

4·2 from pneumonia, 2·6 from phthisis, and 6·7 from diseases of the respiratory organs.

*Treatment of Cerebro-Spinal Fever.*

Since Sept. 1st, 1906, every case of cerebro-spinal fever admitted into the Belfast municipal fever hospital has been treated with Flexner's serum, and it is most satisfactory to hear with good results. The total number of cases is now over 70. In the first 50 of these which have been treated to a conclusion 13 died and 37 recovered, giving a case mortality of 26 per cent. Before using this serum the number of cases in the hospital was 275, and the death-rate in these was 72 per cent. It is reported that although the number of cases of "spotted fever" in Belfast is much less, there is no improvement in the type of the disease.

*Milk and Railway Stations.*

A gentleman has written to the medical officer of health of Belfast complaining that when passing through Belfast he had noticed at the Great Northern Railway station milk being transferred from large railway cans into the milk cans of a dairy company, and that while this was being done a railway porter was brushing the platform and carriage-ways which were exceptionally dirty. This, he pointed out, was a common occurrence morning and evening. It was resolved by the public health committee to send a letter to the railway authorities calling their attention to the subject and to the seriousness of having milk transferred in such circumstances.

*The Tuberculosis Exhibition in Ballymoney.*

The Tuberculosis Exhibition was held in Ballymoney from March 11th to 14th. The following members of the medical profession gave lectures:—Dr. Louise McIlroy on Tuberculosis and Sanatorium Life, Sir John Byers on the Influence of Women in the Prevention of Tuberculosis, Professor T. Sinclair on Surgical Tuberculosis, and Dr. W. Calwell on the Prevention of Tuberculosis (Consumption): a Chapter on Sanitary Reform. The exhibition was very largely attended and there were crowded audiences at the various lectures.

March 17th.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*The Transmission of Enteric Fever and Cholera.*

M. Remlinger and M. Nouri have made some interesting experiments for the purpose of studying whether fish can transmit enteric fever and cholera. They described these experiments at a meeting of the Biological Society held on Feb. 29th. The fish used for the experiments were gold-fish, and it was obvious that a fish living in water contaminated by either the cholera vibrio or the bacillus of Eberth can absorb into its organs, and more especially its digestive tube, these pathogenic germs. This fact is of no importance from an alimentary point of view, for the observers have made it plain that even if the fish are cooked entire and without having been gutted the temperature attained by the internal parts is sufficient to bring about the death of all the micro-organisms. From the epidemiological point of view, however, the presence of pathogenic microbes in the digestive tube of fishes is of interest, for it is quite possible that such fish may carry pathogenic microbes from a contaminated stream into one hitherto uncontaminated, and this may be the explanation of certain epidemics of water-borne disease spreading up-stream.

*Treatment of Ocular Fatigue.*

M. Sardou says he has obtained excellent results in the treatment of ocular fatigue by the use of injections of an extract of the whole globe of the eye or by the administration by the mouth of a dry extract in doses of from two to eight drachms. This treatment, however, is of no use in cases where the trouble is very marked or is due to marked disorders of the circulation. It also fails in cases where the eye-strain is due to artificial light.

*A Professional Scandal.*

A scandal has just come to light in reference to the law as to accidents to workmen. This law gives an injured workman the right to select his own medical man, whose fees have to be paid by the employer according to a recognised scale; the employers, however, have always protested against this and have always preferred that the workman should employ their own medical man, or the factory surgeon, or the medical officer of the insurance company to which they subscribe. On the other hand, the workmen's associations have always claimed the right to choose their own medical man, and argue that the employers' medical man is not impartial and is always striving to diminish the amount of fees which the employer has to pay for adequate attendance on the injured man. Various associations of medical men have made common cause with the working men on the ground that the ordinary attendant of the working man should not be deprived of a possible patient by the employer's medical man intervening. Unfortunately, various abuses have arisen; certain medical men have started regular establishments for treating injured working men, and factory hands who have met with an accident are directed to these establishments by go-betweens. The medical man then sends in a certificate giving a greatly exaggerated account of the injury, and when the working man obtains an unfairly large compensation he divides it with the medical man. Worse still, some medical men have shown working men how to simulate accidental injuries. The Syndicate of the Building Trades, which has suffered especially by these practices, set an inquiry on foot and has definitely obtained proofs that uninjured workmen have been declared to be injured by medical men in return for a fee. A great scandal has therefore arisen and the matter has been taken up with much gusto by the political journals. One paper indeed has interviewed various leading Parisian medical men on the question of whether and by what means the professional morality of medical men can be reformed. The President of the Medical Syndicate of the Seine gave it as his opinion that individual failure of morality should not be held to compromise the profession as a whole. Nevertheless, the campaign is already bringing forth fruits by sowing the seeds of distrust among the public and especially among the law courts, which are none too well affected towards medical men.

*Removal of a Foreign Body from the Œsophagus.*

At a meeting of the Surgical Society held on Feb. 26th M. Routier showed a child in whose œsophagus a copper coin (a *sou*) had been lodged for the last four years. There was only a slight difficulty in swallowing. A moderate-sized olivary bougie could be passed freely but radiography showed the foreign body quite plainly on a level with the third and fourth dorsal vertebræ. It was extracted without difficulty by M. Guisez with the aid of the œsophagoscope and the child made an uneventful recovery.

*Treatment of Sciatica and Rheumatism.*

At a meeting of the Academy of Medicine held on Feb. 25th M. Lucas-Championnière read an interesting communication by M. Ménètrel on the treatment of rheumatism and sciatica by air at a temperature from 150° to 200° C. The duration of each application was from 10 to 45 minutes and the number of repetitions varied from 14 to 60 times. In 184 cases M. Ménètrel obtained 22 complete recoveries and 32 recoveries with slight relapses which were easily checked by resumption of the treatment.

*The Therapeutic Use of Cholesterine.*

M. Iscovesco read a paper on this subject before the Biological Society on March 7th. He said that cholesterine protects the red cells of human blood against serums and hæmolytic agents. This protection is brought about in two ways: the hæmolytic power of the serum is reduced and the corpuscles are made more resistant. These observations encouraged M. Iscovesco to try whether cholesterine might not have some therapeutic action. He gave it in doses of from 1·5 to 2 grammes daily in a case of rheumatic purpura, four cases of chlorosis, eight cases of pulmonary tuberculosis, and seven cases of infantile lymphatism with strumous glandular infection. All these patients were either cured or markedly benefited after the treatment.

March 16th.

## COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

*The Association of Junior Medical Men and the Municipality of Copenhagen.*

THE struggle between the Association of Junior Medical Men and the Municipality of Copenhagen mentioned in my last letter was of far shorter duration than was anticipated. On the invitation of the association practically

every one of the 1700 Danish medical men sent in a document in which he engaged himself not to apply for any appointment on the municipal hospitals of Copenhagen before the association considered the offered remuneration for service in the hospitals to be satisfactory. So far as could be ascertained the public at large sympathised with the movement, and the lay press, to which the incident, of course, was a welcome topic for discussion, sided without exception with the medical men. Of course, a powerful public body like the Copenhagen town council does not take kindly to altering a decision once definitely settled by it and will always be found very unwilling to recant. It was therefore feared by the profession that the council would make use of the offer made by the association and run the hospitals with locumtenents in the appointments, though this course would be exceedingly expensive. Economy, however, as usual, got the upper hand with the council and as it became evident that the profession was not to be divided on this question the council eventually resolved in a public sitting to grant in full all the wishes of the Medical Association. This victory has considerably enhanced the prestige of the profession, so that in future the authorities probably will consider twice before going against the wishes of the medical organisation. The more direct and palpable profits accruing to the profession from the victory consist in an increase in the yearly salary of the medical men in the municipal hospitals of Copenhagen of about £4000. But scarcely has this conflict ended before a new one threatens to occur. A couple of years ago a law was passed by our legislating body concerning the gratuitous treatment of venereal diseases. The law rules that anybody, rich or poor, suffering from a venereal disease is entitled to free treatment and cure, and it obliges the municipalities to appoint and to pay medical men *ad hoc*. This law, it is easy to see, has a vital importance for the profession, as we meet here face to face with the singular phenomenon that the State monopolises in a way the medical treatment of a certain class of diseases. The next time perhaps those who suffer from tuberculosis or cancer will be declared entitled to free treatment and cure, whether they be rich or poor, and so on with other diseases. Our organisation has therefore resolved that the salary paid by the municipalities to the medical men appointed ought to be paid in the form of a fee for every consultation, and that it was not permissible for any medical men to accept one of the mentioned appointments if only a fixed yearly sum was offered. This measure was necessary in order to insure the same income to the profession from the public treatment of a class of diseases as from the usual private treatment of the same class of ailments. Strange to tell, the municipality of Copenhagen does not seem to have learnt wisdom from its recent defeat but appears to be unwilling to listen to the wishes of the profession and leans towards an appointment with a fixed yearly salary. I shall in a later letter report on the final outcome of the matter.

### *An Original Method of Performing Gastroscopy and Gastrodiaphanoscopy.*

At the last meeting of the Medical Society of Copenhagen Professor Thorkild Rovsing demonstrated an original and, as it seems, a very valuable method of performing gastroscopy and gastrodiaphanoscopy. Gastroscopy has up to now not succeeded in securing any considerable number of advocates because the view of the interior of the stomach is necessarily very incomplete and difficult to interpret when the instrument is introduced into the stomach through the long canal formed by the mouth, pharynx, and gullet. Gastrodiaphanoscopy has, as hitherto performed, proved of even less value. Still it goes without saying that a visual examination of the stomach walls would be a great diagnostic help in all obscure stomach cases. Even when a laparotomy has enabled the surgeon to examine the stomach directly with his fingers it proves often impossible to say certainly whether there is any infiltration of the stomach walls at all, or whether an undoubted infiltration is due to a malignant new growth or to a scar tumour after ulcus. In cases of this description, where the diagnosis is wavering even after laparotomy has been performed, Professor Rovsing's new method shows its efficacy. He makes a little opening in the anterior wall of the stomach, somewhat above the great curvature, and introduces through the opening an instrument made much like an ordinary cystoscope, only larger, whereupon he closes the stomach wall so as to be air-tight round the stem of the instrument. Through a channel in the instrument air is pumped into the stomach, which consequently presents itself like an inflated balloon. Light is now turned on by means of the little lamp of the instrument and the stomach is seen beautifully transilluminated from within, in normal cases like a yellow globe, on the surface of which the ramifications of the vessels running across from the two curvatures, nay, even the different muscular layers, may be distinguished. In cases of gastritis the globe becomes red instead of yellow. If some part of the stomach wall is infiltrated (for instance, by a malignant tumour) a dark spot stands out against the surrounding normally translucent wall. An ordinary ulcus in healing presents itself as a dark ring, the scar in the centre allowing the light to pass easily. Professor Rovsing's gastrodiaphanoscopy also permits the examination of the posterior stomach wall by simply lifting up the stomach, &c. The examination is completed by gastroscopy—i.e., by studying the view of the interior of the stomach given by the optical apparatus of the instrument. This view is very brilliant and clear on account of the large dimensions of the instrument. The configuration of the cardia and the movements of the pylorus may be observed with the utmost distinctness, as may, of course, also any alteration of the surface of the stomach walls. In a series of obscure cases Professor Rovsing has found his method of great diagnostic value. By means of a special contrivance the instrument also enables the surgeon to perform the retrograde catheterisation of the gullet *de visu*. There is reason to hope that it will facilitate the detection of the bleeding point, so difficult to obtain in some cases of bleeding from the stomach. Several speakers congratulated Professor Rovsing on his new and important method and prophesied a great future for it.

March 14th.

## ITALY.

(FROM OUR OWN CORRESPONDENT.)

### *The Psychology of the Child.*

LAST Wednesday, in presence of the Queen Dowager and a distinguished audience which filled the Aula Magna of the Collegio Romano, the well-known medico-psychologist Professor Sighele delivered a lecture "Sull' Anima del Fanciullo" (On the Mind, or rather Soul, of the Child). Having dwelt on the importance as well as the fascination of his theme, Professor Sighele said that the traditional view of the child resolved itself into two conflicting opinions, one in which the child was the symbol of moral purity or perfection, the other that he was the prototype of all human defects. Both were exaggerated, equally vitiated by the error of judging the "anima infantile" by adult moral criteria. "In the child," says Professor Sighele, "is reproduced the psychology of the savage or primitive man, and this by a law of nature formulated for the first time by Haeckel—to wit, the 'resurrezione atavica' (atavic revival), which explains the peculiar interplay of impulses, involving so many psychological contradictions which surprise and puzzle us in the child." From this point Professor Sighele illustrated the mental characteristics of the child; his glowing imagination and the tendency to falsehood which springs from it, his unconscious cruelty, his selfishness, his insensibility—all of these typified in appropriate anecdotes. But the child is at this stage only in transition, these characteristics gradually shading off till in process of time they melt into the normal type. Education is, as it were, the golden thread which, interwoven with the crude tissue, refines, strengthens, and transforms it. But education succeeds in proportion as it is at pains to understand the "anima infantile," to interpret its moral indications, above all in a kindly spirit which allows for its insensibility to our grievances or sorrows and appreciates those peculiar to the child. At this point Professor Sighele diverged into illustration of what the child is often made to suffer from misinterpretation of his developing wants—instancing even suicide as one of the "loopholes of escape" sometimes resorted to by the little martyr! A reassuring picture was then given of the superior opportunities enjoyed by the latter-day child compared with those of his predecessor a generation ago, though even here a new source of danger arises—to wit, the moral and intellectual atmosphere inhaled by the child being such as to induce precocity and the neuroses which both cause it and spring from it. "In these days," concluded Professor Sighele, "whose sovereign law seems haste—often 'raw haste, half-sister to delay'—the child is apt to suffer from the premature encouragement of tastes and aptitudes alien

to his years." The lecture, which was loudly applauded at its close, will ere long be made *publici juris*.

*A "Catechismo Igienico."*

Italy has just emerged from the throes of an "education controversy" having many features in common with that still raging in England—the Italian solution being that of "leaving to the will of each commune throughout the country the question of religious instruction," which may be given or not according as that will preponderates in a negative or affirmative sense. This, of course, is no solution at all. The Church is too powerful, even in the lay community, to tolerate an arrangement by which the Bible may be absolutely withdrawn from the elementary school. Apart from this, the Parliamentary debates were interesting in many ways, not least when the medical deputies intervened. One of these, Dr. Badaloni, a general practitioner who, like many of his calling, represents a constituency in the Legislative Chamber, made a proposal which drew all the belligerents together in amicable agreement: to wit, that pending the difficulty of the exclusion or introduction of the Church Catechism there should be made compulsory a "hygienic catechism," compulsory, that is to say, on the teacher to impart and on the pupil to learn. A commission of medical men specially appointed by the State should be intrusted with the compilation of the catechism and this, when thoroughly approved, should be taught on set occasions every week either by a duly qualified teacher belonging to the teaching profession or, failing him, by a medical man chosen *ad hoc* and paid accordingly. Dr. Badaloni, as stated, carried the whole house with him in this proposal, pointing out that until public opinion, enlightened hygienically, can make itself heard and felt the many scourges of Italy, such as pellagra, "the disease of malnutrition," and tuberculosis, "the disease not only of malnutrition specially but of foul air, defective housing, and inherited malaise," will with many other minor products of insanitation continue to sap the virility of Italians. Such a catechism, imparting the knowledge of health and its laws, will train the next generation to demand and to extort from the Government a new set of conditions under which the agricultural and industrial manhood of the nation can live and thrive, so replacing the "inspection" and the "surveillance" of officers who, underpaid and overworked, leave hygienic abuses pretty much as they find them. Dr. Badaloni proceeded to show that the proposal which he made had, at least in one commune, been put in practice. In Genoa physicians have been appointed and remunerated by the authorities to give hygienic instruction in the elementary schools—instruction conveyed in the form of question and answer and illustrated, where necessary, by illustrations, pictorial and other. "The city of Maria Santissima is on the road to become the city of the Dea Igea!" Genoa, however, like most Piedmontese centres, is better instructed than her Italian sisters, particularly in the south, where, according to the latest returns, 80 per cent. of the urban and rural population are "analfabeti" (can neither read nor write). But it is well to make a beginning, and Southern Italy must by sheer moral contagion fall one day into line, educationally as well as socially, with her northern counterpart.

March 8th.

## VIENNA.

(FROM OUR OWN CORRESPONDENT.)

*Biological Effects of Pyocyanase.*

IN a paper read before the Gesellschaft der Aerzte Dr. Winkler gave the results of some experiments made by him on several living organisms with the substance called pyocyanase. He said that since the action of pyocyanase on meningococci and Löffler's diphtheria bacilli had been studied, it has become evident that in this liquid there must be some proteolytic enzyme belonging to the group of trypsins. If pyocyanase came in contact with leucocytes, their plasma was dissolved so that the granules and the nuclei only remained and these were, as was shown under the ultramicroscope, immobilised; the leucocytes also at once became quite motionless as if they were frozen. Bacteria and spirilla were in like manner rendered immediately motionless. Spermatozoa formed an excellent object for demonstration; they were best studied under the ordinary microscope. The moment the spermatic fluid came in contact with the pyocyanase its enormous activity was stopped. This seemed to be a chemotactic and not a proteolytic action, as the spirilla and the flagella were not dissolved. If gonorrhœal pus was brought in contact with the liquid the gonococci were dissolved and disappeared in about an hour. This suggested the idea of treating gonorrhœa with pyocyanase, but the results were not satisfactory as there was no action in the deep layers of the mucosa where the cocci were generally localised. Only the posterior urethritis could be favourably influenced by deep injections of the liquid. Observations have also been made in a case of scleroma of the nose. The injections were followed by pyrexia and swelling of the neighbouring parts, and a softening of the diseased tissue was subsequently noticed, but the results were not uniform.

*Legislation against Quackery.*

By an order of the Ministry of the Interior the importation and sale of several quack medicines and instruments have been prohibited and amongst them is the "electric hearing battery" of one Keith-Harvey who has an address in England and styles himself professor. The business which he did in Austria was very extensive but the newspapers have now been forbidden to print his advertisements. It was the Austrian Otological Society which called the attention of the Government to this man's proceedings and it is very gratifying to note that the public is now to some extent protected against him and some others of his kind.

*Investigations on Coli Toxæmia and Coliuria.*

Dr. Kornfeld has been studying the subject of coliuria (the presence of bacterium coli in the urine) and has communicated his results to the Gesellschaft der Aerzte. He said that in this condition the urine was turbid, even in the smallest quantities, and contained innumerable bacilli of the same type. There was no increase of leucocytes, which proved the absence of any inflammatory changes, neither were there any renal elements. Chronic coliuria was often accompanied by other affections of the urogenital system, but sometimes it appeared alone, especially in the bladder. This latter was the most important; the infection took place from the intestinal canal after the intervening tissues (prostate gland and prærectal connective tissue) had undergone alteration in consequence of chronic blennorrhœa and had thereby been made permeable for the bacterium. This previous gonorrhœal attack was always demonstrable in genuine coliuria of the bladder. As the bladder became infected from the intestine only after the lapse of ten or 15 years the disease was never seen in an out-patient department, at which only the younger class of patients suffering from gonorrhœa presented themselves. It did not ascend towards the kidney and catheterisation of the ureters always gave sterile urine. Its duration might exceed 15 years. In the course of the disease attacks of toxæmic fever might occur, with grave disturbances of the general health, such as rigor, vomiting, diarrhœa, and profuse sweating. These attacks were of short duration—only from 14 to 20 hours—but they reappeared at regular intervals of from 10 to 30 days. They imitated severe septicæmic infection but the shortness of the attack differentiated it. An important symptom of the presence of bacterium coli was the fact that the urine remained acid for months, even when kept uncovered, because that organism did not cause the decomposition of urea and destroyed all the other organisms which had this effect. At present there was no safe and sure therapeutic measure known for coliuria. Washing out the bladder or administration by the mouth of pharmaceutical preparations such as urotropine and helmitol had only a temporary effect.

*The late Epidemic of Small pox.*

During the months of August and September, 1907, there was a small-pox scare in Vienna on account of an outbreak of the disease which was recorded in THE LANCET of Sept. 7th and 21st. As cases of small-pox have been exceedingly rare in this city during the last 30 years and as in some years there have been none at all the population was much alarmed. Very stringent measures were employed to stop the outbreak and they succeeded. There were 163 cases altogether and of these all but one were treated in the special small-pox hospital. The solitary exception was a child in whom the diagnosis was made post mortem. Special care was taken to ascertain the condition of the patients as to vaccination as well as the effects of previous and recent vaccination. The following facts and data are worth mentioning. Of the 162 patients

treated in the isolation hospital 33 died. Of the deceased 20 had never been vaccinated, three had been vaccinated without result, two had been vaccinated without result eight days before they fell ill, four had been vaccinated when children but not revaccinated, and four had been vaccinated two days before they fell ill. It is therefore obvious that none of these patients had really been under the protective influence of vaccination before they were infected because it is known that the protective influence of vaccination is attained only after the ninth day and lasts from seven to ten years. There were 11 cases in which the disease assumed the complicated confluent or hæmorrhagic form. It could be easily shown that the influence of vaccination, if successfully performed, was of material benefit to the patient because the coexistence of the viruses of variola and vaccinia in the body had a slight abortive effect on the course of the infection. There was no case of mixed infection with variola and vaccinia more than eight days old, which proved that vaccination could prevent an attack of small-pox even if the variolous infection was one or two days old at the date of the vaccination. The complications of the disease were mostly located in the heart. Among the cases which recovered acute insufficiency of the heart was observed in 50 per cent., mostly during the stage of suppuration. There were few symptoms connected with the uropoietic and the respiratory organs. Death occurred generally in the second week—i.e., in the suppurative stage. Intra-uterine infection of the newly born child was observed twice and both children died. The mothers were vaccinated but not immunised, as the disease attacked them a few days after vaccination. In both cases the maternal vaccination did not mitigate the disease as manifested in the infant. The extremely infectious nature of small-pox was illustrated by the fact that two patients were attacked with it in a pavilion 20 yards away from the small-pox pavilion. As there was no other possibility of transmission of the disease the only explanation was that the infection was carried by the air from the small-pox wards. The distance between the small-pox wards and other wards will, therefore, on the next occasion probably be increased, as it is not possible to disinfect the air as it escapes from a ward.

March 14th.

## NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

*The Practice of Medicine by a Corporation.*

THE question has arisen in the courts of New York, Can a corporation practise medicine under the laws of the State? The law reads as follows: "Any person not a registered physician who shall advertise to practise medicine shall be guilty of a misdemeanor." The meaning "to practise medicine" is thus defined by statute. "A person practises medicine within the meaning of this Act ..... who holds himself out as being able to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity, or physical condition, and who shall either offer or undertake by any means or method to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity, or physical condition." An important decision has recently been rendered by the Court of Special Sessions of New York in the case of a certain corporation which was prosecuted by the New York County Medical Society. The corporation claimed that it was not violating the law because the law specifies "person," and as it was a corporation it did not come under that definition. The corporation was convicted and a motion to acquit was denied. This decision will affect large numbers of corporations in the State which are advertising their methods of treatment of diseases.

*Protection against Suits for Malpractice.*

The protection which medical men secure against suits for alleged malpractice, by organised opposition, is well illustrated in the report of the legal officer of the State Medical Society of New York. This society offers to assume the defence of any member who is prosecuted. The counsel reports that "for the past two years during which time he has represented the Medical Society ..... in this class of litigation there has never been a single dollar by way of verdict secured against any member of the society who has asked of the society and received malpractice defence." The amount involved in the actions begun in the year 1907 aggregated upwards of $200,000. The actual number of actions brought has decreased by about 25 per cent. It appears from this report that the object sought to be accomplished—viz., the arrest of suits for malpractice—is being realised. While the blackmail variety of cases is diminishing the counsel states that the majority of cases are more difficult to defend, because only those cases are brought into court which have a substantial basis of prosecution. Many of these latter are settled out of court.

*Antivivisection Agitation.*

The purchase and equipment of a farm for experimental medical research, mentioned in a previous letter, have led to a great revival of anti-vivisection agitation and to the introduction of Bills into the Legislature forbidding experiments on animals. The principal promoters of this agitation are societies for the prevention of cruelty to animals. Large public meetings are held and the Governor of the State lately appeared in one of the largest meetings in favour of the proposed legislation. Meantime the State Medical Society has vigorously protested against the Bill regulating vivisection and has endeavoured to unite the profession in opposition.

*The Public Health and Marine Hospital Service.*

This department of the General Government is the only public health service having federal jurisdiction. Its public health functions, however, are very limited and by no means meet the increasing demands of the country for a strong central health authority in the Government at Washington. As far as its powers extend the present bureau does excellent work. Under the prudent and intelligent management of Surgeon-General Wyman the scope of its operations has gradually widened with results that are attracting public attention. It has several times been called upon to aid State and local boards in their efforts to control and to exterminate such pestilential diseases as yellow fever and bubonic plague. The annual report just issued shows that its official *personnel* consists of 118 commissioned officers, three special men of science in the hygienic laboratory, and 255 acting assistant surgeons. The report states that this force is entirely inadequate "considering the enlarged activities on which the service is rapidly entering in response to public demand and the public health necessities of a growing country."

*Medical Schools and the United States Pharmacopœia.*

The tendency of medical practitioners to prescribe the prepared remedies, now so widely advertised, is so universal that there is danger that the United States Pharmacopœia, the standard authority on drugs, will finally be entirely ignored. The Philadelphia College of Pharmacy has recently invited the teachers in the medical colleges to a conference, and the following resolution was adopted:—

That it is of the utmost importance for accuracy in prescribing and in the treatment of disease that students of medicine be instructed fully as to those portions of the U.S. Pharmacopœia which are of value to the practitioner, and that members of the profession be urged to prescribe the preparations of that publication.

*The Death-rate of New York as affected by Nativity.*

The registrar of the Health Department of New York, Dr. William H. Guilfoy, has made a careful study of the influence of the foreign population upon the death-rate. The general death-rate for 1906 in the boroughs of Manhattan and the Bronx (old New York) was 1·81 per cent. On analysis it appears that the death-rate of the native born (United States) was 1·84; of Irish, 2·92; of Germans, 1·71; of Italians, 1·81; of English, 1·72; of Scotch, 1·89; of French, 2·33; of Swiss, 2·46; of Swedes, 1·21; of Russian Poles, 1·35; and of Bohemians, 1·86. From these statistics it appears that the Irish have the highest death-rate, 2·92, and the Swedes the lowest death-rate—1·21. The rates of mortality among the people of different nationalities as regards diseases per 100,000 population are thus given:—Typhoid fever: highest, French, 35·1; lowest, Scotch, 9·1. Measles: highest, Italians, 128·6; lowest, English, 3·14. Diphtheria: highest, Italians, 131·1; lowest, Scotch, 4·6. Bright's disease: highest, Irish, 255 6; lowest, Swedes, 56·1. Diarrhœal diseases: highest, Italians, 483·7; lowest, Germans, 39·4. Pulmonary tuberculosis: highest, Irish, 472·8; lowest, English, 133·7. The general conclusions of Dr. Guilfoy are that the Irish, by reason of their living at unfavourable age groups, increase the general mortality of the city and the same is true to a less extent of the French Swiss, and Scotch, while the English, Germans, and Swede, affect favourably the general mortality. The natives of the

United States and of Italy and Bohemia have a death-rate nearly that of the general average of the city. It was possible to study and to compare the death-rate of nationalities by blocks in which they form separate communities. The result per 1000 of the population was as follows: Germans, 16·3; Austro-Hungarians, 16·4; Russian Poles, 17·4; Italians, 19·2; Bohemians, 19·5; Irish, 24·6; Chinese, 34·6; Syrians, 35·8; and Negro, 38·5.

*Construction of the Pure Food Law.*

The law provides that a drug shall be deemed to be misbranded if its package or label shall bear any statement, design, or device regarding such article, or the ingredients of substances contained therein, which shall be false or misleading in any particular. Several druggists at Washington have been prosecuted for selling a compound with the odd name "Curforhedake Brane Fude." The Agricultural Department holds that this name means a "cure" for headache and that the designation is false. The *National Druggist* believes that if the defendants are convicted every druggist and a large number of medicine manufacturers will at once be subject to fine and imprisonment. It contends that, if the Government is sustained, the courts will have the right arbitrarily to determine the therapeutic value of all of the drugs in the materia medica. It strenuously objects to leaving to courts and juries to decide the question of the medicinal properties and merits of medicinal preparations.

*Prize Essay on Tuberculosis.*

The Smithsonian Institute at Washington announces that in connexion with the approaching International Congress on Tuberculosis to be held in that city in September, a prize of $1500 is offered for the best treatise submitted to that Congress on the Relation of Atmospheric Air to Tuberculosis. The treatise may be written in English, French, German, Spanish, or Italian. Information will be given by the secretary of the institution, Mr. William D. Walcott, Washington.

March 3rd.

# Obituary.

## SIR ALFRED COOPER, F.R.C.S. ENG. AND EDIN.,

CONSULTING SURGEON TO THE WEST LONDON HOSPITAL AND ST. MARK'S HOSPITAL FOR FISTULA.

The death of Sir Alfred Cooper, the well-known and popular consulting surgeon, which occurred on March 3rd, as the sequel of a somewhat protracted illness, at the comparatively early age of 69 years, has deprived an unusually large and intimate circle of a valued friend.

Sir Alfred Cooper was the son of Mr. William Cooper, a barrister and Recorder of Ipswich. He received his early education in Norwich, where he was born, and at the Merchant Taylors' School, and was afterwards apprenticed to a surgeon on the staff of the Norfolk and Norwich Hospital which 50 years ago enjoyed an exceptionally high place among provincial hospitals, considering that the eastern capital was in those days not much more than half its present size. From Norwich he went to St. Bartholomew's Hospital, qualifying as a Member of the Royal College of Surgeons of England in 1861, and afterwards accompanying a fellow student, now Sir Thomas Smith, to Paris to take out, as was then customary with ambitious young surgeons, a course of operative surgery at one of the great French cliniques. Having obtained the diploma of the Fellowship of the Royal College of Surgeons of Edinburgh he began practice as a consulting surgeon in Jermyn-street, the basis of his fortune being laid by the skill and tact with which he attended the members of the numerous clubs in the neighbourhood. In 1870 he took the Fellowship of the Royal College of Surgeons of England, having in 1864 become attached to St. Mark's Hospital for Fistula and in 1867 to the West London Hospital in the capacity of surgeon. He was also surgeon to the Inns of Court Royal Volunteers and took a great interest in Freemasonry, so that in a very short space of time he became favourably known to the public as well as to his professional brethren.

His skill, his geniality, and his love of a sporting life enabled him to take full advantage of the distinguished social opportunities which began to come his way. The late Duke of Hamilton, whose semi-royal extraction gave him a particularly distinguished place in the aristocratic world, introduced his friend Cooper freely into circles where a less gifted and less adaptable man could hardly have made use of the chances offered to him, but Cooper quite early in his career became the best kind of fashionable surgeon—that is to say, that he was a surgeon first, being a man of fashion afterwards simply because he moved on account of his private friendships in the higher planes of the social world. He was appointed by the Duke of Edinburgh (afterwards Duke of Saxe-Coburg-Gotha), between whom and himself there was the bond of love of music, to the post of surgeon-in-ordinary, and was present at the marriage of the Duke in St. Petersburg as surgeon-in-waiting on the present King. On this occasion he received from the Tsar the Russian Order of St. Stanislaus. His professional life thus happily started turned into a career of unbroken success. He was a recognised authority on rectal diseases and having been elected surgeon to the Lock Hospital, in addition to the St. Mark's Hospital for Fistula, became well known for his general skill in the treatment of venereal diseases. He was for over 30 years surgeon to St. Mark's Hospital for Fistula and for nearly 20 years surgeon to the West London Hospital, with which institutions, where he was consulting surgeon at the time of his death, he remained always in close association. In 1895 he became a candidate for the Council of the Royal College of Surgeons of England and was elected as substitute member until 1900, when he became a candidate for full membership, entering the governing body of the corporation at the head of the poll. In 1903 he became Vice-President of the College, and in 1905 resigned his seat on the Council, at which date he retired from practice, passing most of his time for the last three years of his life at Cooper-Angus Lodge, Isle of Arran.

We append here a few lines of personal appreciation of Sir Alfred Cooper from the pen of his most intimate friend Dr. Clement Godson, in which reference is made to Sir Alfred Cooper's well-known prowess as sportsman.

"I do not believe that anyone was ever more loved and respected by a wide circle of friends of all ranks, rich and poor, than Alfred Cooper. His advice and help were constantly sought for by those in need of such, because his generous heart, his kindly disposition, and his good judgment were so well known. He never failed to assist those deserving help. He was loyal to the backbone to his friends. If he promised, as I have known him do on several occasions, to help a man who was a candidate for a hospital or other such appointment, he would enter into it heart and soul and sit for hours writing letters on his behalf. His devotion to St. Bartholomew's Hospital was very marked and earned him the affection of all connected with that school. When asked by a patient what medical adviser he should send for (the patient having gone to reside in a new locality), many a time has Cooper telephoned to me to inquire if I knew a St. Bartholomew's man there, and if I could not tell him of one he has searched through the Medical Directory for the school of every man practising there to see whether loyalty to his old school would enable him conscientiously to recommend a Bart's man.

I have known him as a close friend for upwards of 35 years. So frequently were we seen together that we have been spoken of and regarded as inseparable, and I can never over-estimate the value to me of the close acquaintanceship and friendship, but, alas, the hand of death has effected the separation. I have received letters of condolence from dozens of friends who well knew our relationship. One lady, a patient both of his and mine, writes: 'No man was so upright or with a finer character, and he will be a national loss, and to you I know what a great great loss he will be, and you were like two brothers. He has lived a noble and an unselfish life to the last and his name will always be treasured and honoured.' Another mutual friend, an old patient of his, writes: 'Alas! poor Alfred Cooper, he was indeed *sui generis*, and you and I cannot hope to look upon his like again.' A third, a professional brother, writes, after expressing his sympathy with me: 'Poor old Sir Alfred, it seems very sad we shall never see him again, the truest and best friend any man could have. These people are not readily replaced, they don't seem to make many such men nowadays.'

Until quite recently, when his health broke down and he retired from practice, he thoroughly enjoyed the pleasurable side of life. He was an ardent and a distinguished Freemason, and after 'labour' he enjoyed 'refreshment'; he never neglected the former. He was a very keen sportsman. His house—Cooper-Angus Lodge in the Isle of Arran—has

its walls inside and its gables outside covered with antlers of fine stags which have fallen to his rifle. He was a very good shot, whether at grouse over dogs or at a partridge drive, and he was considered a good enough gun to be invited to shoot on a big day with the most distinguished and best shots in England. Many a bird have I seen fall to his right and left, and rarely did he miss one. He was also very fond of deep-sea fishing, and it was a real treat to see his bright face when pulling up into a boat fine whiting, two at a time, one on each hook, in the bay in front of his house which bears the name of that fish; and no one appreciated them more than he did when they came to table after our return, dusk having overtaken us. How pleasant are these memories. How sad to think they will never recur. *Requiescat in pace.*"

Sir Alfred Cooper was not, and did not aspire to the position of, a great scientific surgeon. He spoke little at the medical societies and leaves but little written work behind him, but he was well known to his professional colleagues as well as to his patients as possessing great skill in the special departments of surgery which he made his own, and the regard in which he was held by medical men was very sincere.

Sir Alfred Cooper married in 1882 Lady Agnes Duff, sister of the Duke of Fife, by whom he had a son and three daughters who survive him.

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## EDWARD ROBERT BICKERSTETH, F.R.C.S. ENG. & EDIN.,

CONSULTING SURGEON TO THE LIVERPOOL ROYAL INFIRMARY, LATE LECTURER ON CLINICAL SURGERY AT THE UNIVERSITY COLLEGE, LIVERPOOL, ETC.

IN THE LANCET of April 25th, 1857, we recorded the death of a surgeon who had gained to an extraordinary degree the respect and confidence of all classes of people in Liverpool. This was Mr. Robert Bickersteth, a man who had served the Liverpool Infirmary faithfully for 40 years; we told how he had been born in 1787 at Kirkby Lonsdale, in Westmorland, where his father was in medical practice, and we then also wrote that "his son, Mr. E. Bickersteth, now holds the honorary post of surgeon to the infirmary." The time has come for us to pay an equal tribute to that son, who was the fourth medical practitioner in the family in direct line of descent, and whose life has recently ended at the ripe age of fourscore years, a life which has been spent worthily in following the track that had been beaten out by its begetter. It is not a little interesting to reflect that these two lives have covered 120 years of such surgical progress that we may say there is a greater gulf fixed between the son's death-day and the day of his father's birth, in so far as regards the art which the two men followed, than stretches between the father's birthday and that of Ambroise Paré: the elder Bickersteth was contemporary with John Hunter and his son had witnessed to the full the revolution and evolution of surgical method which has followed on the genius of Simpson and Lister. Can any medical family in England show a parallel to this record?

But it is not only in their longevity that the Bickersteth family has gained distinction. Its intellectuality is even more remarkable, for from amongst the men of two only of its generations the Church found three bishops—for Exeter, Ripon, and Japan—a dean for Lichfield, and a rector who became the virtual head of an important school of thought; the Law has chosen a Master of the Rolls, the late Lord Langdale; and Medicine has given a father, son, and grandson to a great city to serve her largest hospital and to gain surgical distinction for themselves in that office.

The subject of this memoir was born at Liverpool in 1828 and was privately educated until he began his medical studies in the school of medicine of his native city 17 years later; he received subsequently a very broad professional training, as was the good custom in those days amongst the better-endowed students, for he visited in turn the schools of Edinburgh, London (where he attached himself to St. Bartholomew's Hospital), Dublin, and Paris. In consequence of these peregrinations he did not qualify until 1851, when he took the Membership of the English College of Surgeons and then returned for a year to Edinburgh, where the seal was set on his surgical education by the teaching of Syme whose authority was in those days paramount and to whom Bickersteth became house surgeon at the Royal Infirmary; here he also made the acquaintance of Lister, the recognition of whose great work he himself was to forward later. Another fellow student was Charles Murchison whose sister Anne he subsequently married. It was to Syme above all others that he acknowledged his success in life, for not only was he in resident charge of the patients of that great teacher for a year, but he was chosen by his chief as an associate in his private practice. When he returned to Liverpool in 1852 Bickersteth was quite decided to adopt surgery as his work, and he took a house-surgeoncy at the Liverpool Royal Infirmary, and at the end of this office he started private practice. No surgical appointment fell vacant for five years, and as he had by that time become a Fellow of the Royal College of Surgeons of Edinburgh the idea occurred to him to start a private surgical hospital, an idea which he realised to such purpose, and attracted so much attention thereby, that the Royal Infirmary deemed it expedient to secure at once the services of a young man of such promise, and appointed him to its surgical staff at the age of 28 years. He was at the same time made lecturer in clinical surgery, and later he was for many years lecturer in systematic surgery to the School of Medicine of the Liverpool Royal Infirmary. He continued to hold the former post after the Royal Infirmary School of Medicine was merged in the newly-created Liverpool University College and until his final retirement from active hospital work. It will be seen that he was one of the small band of men who devoted themselves to keep the lamp of medical education in the great northern city burning at a time when it was threatened with extinction, and it will be in our readers' memory that only last week we published an obituary notice of another surgeon, the late Mr. Reginald Harrison, a colleague of Bickersteth, whose work was invaluable in this respect. We are informed that after seven years of lecturing in the school of Medicine Bickersteth had the satisfaction of facing a class five times as large as when he had started. He speedily worked up an extensive private practice which did not decrease until his retirement from the active staff of the hospital in 1888, when he was appointed consulting surgeon; he still remained on the committee of management and only four years ago he was made President of the infirmary, an honour which he had well earned in its service. His professional merit was also recognised by his colleagues in Liverpool, who in 1870 made him President of their Medical Institution. Nine years later the English College of Surgeons paid him the honour of electing him, without examination, to its Fellowship. Mr. Bickersteth was not a prolific writer but contributed occasional papers on surgical matters to the medical press. Perhaps his most important communications in this respect were made to these columns in the years 1869 and 1870, when he wrote several times to support strongly Lister's treatment of wounds by carbolic acid, at a time when a reaction against the method threatened to arise on account of several discouraging results which had been reported. Mr. Bickersteth wrote confessedly as a counterblast to these and recorded many successful cases, amongst which was a case of ligature of the carotid artery for aneurysm, which resulted in a cure. This was the first case in which Lister's carbolised catgut was employed successfully in the human subject. He also described the employment of continuous carbolic irrigation by means of lint wicks of a compound fracture of the hand, so he has a fair claim to be a pioneer of that most useful procedure. He contributed an early paper on the Mode of Death by Chloroform to the *Edinburgh Medical Journal*.

It was as a clinical teacher, and above all as an operator, that Mr. Bickersteth was pre-eminent. The coolness of his judgment, the promptness of his decision, the brilliance and dash of his style, and his rapidity and precision in executing the work in hand, these are the qualities which are still spoken of by those who knew him at his best. He continued until the end of his life to take a keen interest in modern improvements in operative technique, and was fond of recalling the vastly different conditions under which most of his own earlier work had to be undertaken.

He was an indefatigable worker, with a large circle of friends and acquaintances by whom he was universally held in great regard. He was devoted to the open-air and throughout the whole of the busiest period of his life, at all seasons and in all weathers, he drove himself in a mail-phaeton, taking a pride in the management of his horses and upon the punctuality with which they enabled him to keep his very numerous professional engagements.

For relaxation, he loved nothing so much as the sea and sailing. For very many years he owned a sailing yacht, on which he spent his autumn holiday, cruising with his family on the west coast of Scotland and on several occasions to Norway. 20 years ago, at the time of his retirement from active hospital work, he purchased a residence in Anglesey, and in later years he spent much of his time there. Throughout his life he always enjoyed excellent health, but this unfortunately began to give way about six months ago and he may be said to have died from the gradual breakdown which comes of advanced years. His death occurred on March 7th at his residence in Rodney-street, Liverpool. He leaves a widow, two sons, and three daughters; one of the sons is now surgeon at the Liverpool Royal Infirmary.

On opening the meeting of the Liverpool Medical Institution on March 12th, the President alluded to the loss which the institution had sustained by the deaths of Mr. Edward R. Bickersteth and Mr. Reginald Harrison, and said that "Mr. Bickersteth was the oldest existing member, having joined in 1853. In 1870 he was elected president. He was a member of the distinguished family of that name and in addition to his eminent surgical skill, which has been so well described elsewhere, he possessed the true medical instinct in dealing with his patients. His manner and address were models for younger men, for he possessed in the highest degree the power of acquiring the confidence of his patients."

### WILLIAM BERTRAM COOPER, L.R.C.P. LOND., M.R.C.S. ENG.

A PROMISING medical career was cut short prematurely by the death on March 5th at Chiswick of William Bertram Cooper at the early age of 39 years. Mr. Cooper, who was the youngest son of the late Mr. George Cooper, a London merchant, had, in spite of a very delicate constitution, passed through a highly creditable career at St. George's Hospital, and in a succession of medical offices which he held earned golden opinions from his fellow medical men as well as from his patients, for his kindness and his geniality were supported by a thorough knowledge of his work. After leaving St. George's Hospital he was appointed house physician to Addenbrooke's Hospital, Cambridge, and later medical officer of health successively at Bognor and Margate. He then held Poor-law appointments at Kensington, Camberwell, and East Dulwich, when an offer of partnership that he received from a medical practitioner at Chiswick, whom he had repeatedly represented as locum-tenent, decided him to settle in the place where he died. At Chiswick he rapidly got round him a very considerable practice, being valued alike for his success in diagnosis and his quick eye and steady hand in operations. A few weeks ago his chronic pulmonary troubles culminated in an acute attack of pneumothorax, which, in spite of every attention from his medical friends, including Sir Richard Douglas Powell and Dr. William Ewart, brought his life to a close on March 5th. Mr. Cooper was interred at Willesden Old Cemetery on March 9th. He leaves a young wife, to whom he was married less than two years ago, and a child not a year old.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men have been announced:—Dr. Abraham Adolf Baer, a voluminous writer on prison hygiene and prison diseases generally. He was also an authority on the alcohol question. His age was 73 years.—Dr. Moritz, Director of the Obukhoff Hospital, one of the most eminent German members of the profession in St. Petersburg.—Dr. Karl Fieber, *privat-docent* of surgery in the University of Vienna.—Dr. Vincenzo Chirone, professor of materia medica and experimental pharmacology in the University of Naples.

DONATIONS AND BEQUESTS.—The late Sir Massey Lopes has bequeathed £5000 to the South Devon and East Cornwall Hospital for maintenance of "Lopes and Maristow Wards" and also £1000 for maintenance of the "Children's Ward" in the same institution. He also bequeathed £1000 to the Devon and Cornwall Eye Infirmary, £1000 to the Plymouth Public Dispensary, and £500 to the Plymouth Ear and Throat Hospital.—The committee for the removal of King's College Hospital to South London has received a cheque for £1000 from the Goldsmiths' Company, this being its second special donation in aid of the fund.

# Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the meeting of the Council of this College on March 12th diplomas of M.R.C.S. were conferred upon the following two gentlemen who have passed the final examination of the Examining Board in England in Medicine, Surgery, and Midwifery and have complied with the by-laws:—

Bertram Arthur Lloyd, Birmingham University; and David Ranken, M.B., B.S. Lond., M.B., B.S. Durh., Durham University.

UNIVERSITY OF CAMBRIDGE.—The following degrees were conferred on March 7th:—

*M.D.*—H. Beckton, Clare; and R. D. Smedley, Pembroke.
*M.B., B.C.*—P. J. Verrall, Trinity.
*M.B.*—S. P. Charr, Gonville and Caius;

The following were conferred on March 12th:—

*M.D.*—H. Robinson and J. E. Spicer, Trinity; and A. E. Taylor, Downing.
*M.B., B.C.*—P. H. Bahr, Trinity.
*M.B.*—D. W. A. Bull, Gonville and Caius.
*B.C.*—G. B. Fleming, King's; G. Graham and C. W. Hutt, Trinity; T. C. Lucas, Clare; and H. H. Taylor, Pembroke.

Mr. R. H. Biffen, M.A., of Emmanuel College, has been elected Professor of Agricultural Botany. Mr. C. L. Boulenger, B.A., King's College, has been appointed assistant to the Superintendent of the Museum of Zoology.

TRINITY COLLEGE, DUBLIN.—At the Final Examination in Medicine in Hilary term the following candidates were successful:—

PART II. (*Surgery*).—William S. Thacker, John L. Phibbs, Thomas P. Dowley, and Alfred H. Smith.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. M. Van Londen has been recognised as *privat-docent* of Neurology.—*Baltimore* (*University of Maryland*): Dr. Francis Chisolm has been appointed Assistant Professor of Ophthalmology.—*Berlin:* Dr. Arthur Hefter has been appointed Professor of Pharmacology in succession to Professor Oscar Liebreich; Dr. Ernst Weber has been recognised as *privat-docent* of Physiology; and Dr. Wilhelm Lange as *privat-docent* of Otology.—*Bologna:* Dr. Egisto Magni has been recognised as *privat-docent* of Surgery.—*Breslau:* Dr. Walter Bruck, Lecturer on Odontology, and Dr. Martin Thiemich, *privat-docent* of Children's Diseases, have been granted the title of Professor.—*Cracow:* Dr. Alexander Baurowicz, *privat-docent* of Laryngology, and Dr. Kasimir Majewski, *privat-docent* of Ophthalmology, have been promoted to Extraordinary Professorships.—*Erlangen:* Dr. Philipp Yung of Greifswald has been appointed Professor of Midwifery and Gynæcology and Director of the University Gynæcological Clinic.—*Giessen:* Dr. Soetbeer, *privat-docent* of Children's Diseases, has been promoted to an Extraordinary Professorship; Dr. Franz Nürnberg has been recognised as *privat-docent* of Laryngology and Otology.—*Heidelberg:* Dr. Maximilian Neu has been recognised as *privat-docent* of Gynæcology.—*Helsingfors:* Dr. Axel Cedercreutz has been recognised as *privat-docent* of Dermatology.—*Königsberg:* Dr. Friedberger, *privat-docent* of Hygiene, has been granted the title of Professor.—*Leipsic:* Dr. Ehrhard Riecke, *privat docent* of Dermatology, has been promoted to an Extraordinary Professorship.—*Marseilles:* Dr. Berg has been appointed Professor of Hydrology and Mineralogy in succession to Dr. Gerber.—*Montpellier:* Dr. Estor has been appointed Clinical Professor of the Surgery of Children.—*Moscow:* Dr. N. Berestnoff has been appointed Director of the University Bacteriological Institute in succession to the late Dr. Gabrichevski.—*Munich:* Dr. Hans von Baeyer has been recognised as *privat-docent* of Orthopædic Surgery.—*New York* (*College of Physicians and Surgeons*): Dr. George J. Jackson has been appointed Professor of Dermatology in succession to Dr. George H. Fox, who has resigned.—*Paris:* Dr. Ribemont-Dessaignes has been appointed Professor of Midwifery.—*Philadelphia* (*Jefferson Medical College*): Dr. Edward R. Stitt has been appointed Lecturer on Tropical Medicine.—*Wurzburg:* Dr. Wessely has been recognised as *privat-docent* of Ophthalmology.—*Yale:* Dr. Max Mailhouse has been appointed Professor of Neurology.

Mr. John Poland, late senior surgeon to the City Orthopædic Hospital, has resigned the post of surgeon to the Royal National Orthopædic Hospital to which he was recently elected.

A SCHOOL FOR TROPICAL MEDICINE IN AUSTRALIA.—The Bishop of North Queensland, Dr. Frodsham, is making arrangements with the Schools of Tropical Medicine at London and Liverpool to send out to Australia a trained man to initiate the work of an institute which it is proposed to establish with a laboratory at Townsville, the principal city in Northern Queensland. If the institution can be started the general management will be undertaken by the three Australian Universities having medical schools, Sydney, Melbourne, and Adelaide. The Federal Government of Australia has agreed to subsidise the work at the rate of £450 per annum and the Government of Queensland will give £250; thus the institute will start with an assured annual income of £700, a sum which it is hoped will be increased by private subscriptions.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The thirty-first annual meeting of this association was held at the Hotel Great Central on March 17th (St. Patrick's Day). Sir John W. Moore's year of office having expired the chair was taken by the new President, Sir Charles Cuffe, K.C.B. Dr. F. A. de Thierry Mouillot of Harrogate was elected President-elect, Dr. M. J. Balger was re-elected honorary treasurer, and the vacancies in the council were filled up. Dr. J. J. Macan, chairman of the council; Dr. Kenneth Frazer, vice-chairman; and Mr. T. Hobbs Crampton, Dr. W. Douglas, and Mr. G. W. Dawson, honorary secretaries, continue in office. At the dinner following the meeting nearly 200 members and guests were present. The special guests of the association were the Right Hon. Sir Edward Carson, P.C., K.C., and Professor B. C. A. Windle, F.R.S., President of Queen's College, Cork.

SCHOLARSHIPS FOR STUDENTS OF MIDWIFERY.—The London County Council, through the Education Department, will proceed in July next to award six scholarships to students in midwifery, and those who are concerned should take note that the last day for application forms to be sent in is Saturday, April 18th. Candidates must furnish satisfactory evidence as to character, must be not less than 25 years of age and more than 40 on July 31st, 1908, and must be certified by the Council's medical officer as being in good health. They must be resident, at the time of application and award, within the area of the administrative county of London. They must also be prepared to satisfy the Council as to their need for pecuniary assistance for the purpose of training as midwives, and to enter into a bond with sureties that they intend to practise as midwives for two years among the poor within the area of the administrative county of London. They will be required to pass a qualifying examination in writing from dictation and elementary arithmetic, the standard being substantially equivalent to that set out in the Board of Education Code of Regulations for Public Elementary Schools, 1907 (Part III., Schedule VI.), with the exception of mensuration of triangles. (Copies of the code can be obtained from Messrs. Wyman and Sons, Fetter-lane, London, E.C., price 3*d*, exclusive of postage.) The questions in arithmetic will be of a simple and practical character. The London County Council states that preference may be given to candidates who produce evidence of satisfactory training in general nursing or of practical experience of sick nursing among the poor. The value of the scholarships will be £25, this sum being payable to the institution selected by the applicant in part discharge of the fee for board, lodging, and tuition; while fees over and above £25 will be payable by the student. The course of training, including practical work at the institution, will extend over a period of six months. The scholarships must be held at the institutions recognised by the Central Midwives Board and approved by the Council, and the institutions at present in this category are Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.; the East End Mothers Lying-in Home, Commercial-road, E.; the Clapham Maternity Hospital, Jeffreys-road, S.W.; and the General Lying-in Hospital, York-road, Lambeth. Forms of application for the scholarships may be obtained on application from the executive officer, Mr R Blair, Education Offices, Victoria Embankment, London, W.C., and must be returned to the same address. The examination will take place on Friday, May 15th next.

# Parliamentary Intelligence.

## NOTES ON CURRENT TOPICS.

*The Poisons and Pharmacy Bill.*

THE House of Commons has agreed to the proposal of the House of Lords to refer the Poisons and Pharmacy Bill to a joint committee of both Houses of Parliament.

*Investigation of Sleeping Sickness.*

In the Civil Service Estimates which have just been issued a grant of £3.0 is included as a contribution towards the expenses of a central bureau proposed to be established in London for concerting measures between the Powers interested in combating the sleeping sickness in Africa.

*Parochial Medical Officers (Scotland) Bill.*

Mr. CATHCART WASON has introduced into the House of Commons his Bill to amend the law relating to the tenure of office of parochial medical officers in Scotland. It has been read a first time.

## HOUSE OF COMMONS.

THURSDAY, MARCH 12TH.

*The Eyesight of Army Officers.*

Mr. RAPHAEL asked the Secretary of State for War whether he would consider the advisability, considering the dearth of officers, of relaxing the rules and regulations with regard to the refusal to grant commissions in the army to candidates who were short-sighted or who suffered from astigmatism; and whether this was the only country which deprived itself of the service of eligible candidates by reason of their wearing glasses.—Mr. HALDANE replied: The use of glasses is not prohibited. Candidates who have only one-fourth normal vision in each eye are accepted if the visual defect can be corrected by glasses up to a standard of "fairly good" vision (i.e., normal in one eye and half normal in the other), and if vision of one eye is normal one-sixth of normal vision in the other eye may be accepted, subject to correction by glasses up to one-half of normal. The question of reducing the standard still further has recently been under consideration and it was decided that it was not expedient to do so.

*Medical Inspection in the Transvaal Mines.*

Mr. FELL asked the Under Secretary of State for the Colonies whether the English medical inspector employed to look after the health of the natives in the Transvaal mines had recently been discharged; if so, what reason was alleged for this; and was another medical man to be appointed in his place.—Mr. CHURCHILL answered: Mr. C. L. Sansom, the officer in question, is to be retrenched, but I know nothing of the reason or of the arrangements which may be contemplated by the Transvaal Government.

*Vaccination of Post Office Employees.*

Mr. T. F. RICHARDS asked the Postmaster-General whether there was now any need for requesting the employees in his department as a condition of service to be vaccinated; and seeing that much money was spent in this operation and suffering entailed whether he would take the necessary steps to allow each employee to choose for himself equally with others not engaged by the Government.—Mr. BUXTON said in reply: I am not prepared to make any alteration of the rule in the direction suggested by the honourable Member.

*Tuberculous Cows in Scotland.*

Mr. WATT asked the Secretary for Scotland to state how many cows were examined in Scotland under Article 3 of the Amended Order of 1899 in each of the years 1906 and 1907; how many of these were certified to be affected with tuberculosis of the udder; and what was done with those cows so affected.—Mr. SINCLAIR forwarded the following written answer: Figures for 1907 are not yet available. From returns in possession of the Board, approximately 34,253 "inspections" were carried out under Article 3 in the year 1906. It is impossible to give the number of cows examined. In approximately 257 cases the udder was certified to be tuberculous. The Local Government Board has no information as to what was done with such cases.

MONDAY, MARCH 16TH.

*Medical Inspection in Transvaal Mines*

Mr. FELL asked the Under Secretary of State for the Colonies whether, having regard to the responsibilities of the Government under the Transvaal constitution in respect of the natives employed in the mines, he would take care that Mr. Sansom, the medical officer appointed by the Government to look after the health of the natives and who had recently been retrenched by the Transvaal Government, was replaced by some other equally efficient medical officer.—Mr. CHURCHILL replied: It is not in the power of the Secretary of State for the Colonies to make appointments to the Transvaal Civil Service.

TUESDAY, MARCH 17TH.

*Ophthalmia of the Newly born.*

Lord ROBERT CECIL asked the President of the Local Government Board whether his attention had been called to the large number of cases of blindness caused by ophthalmia of the newly born; whether he was aware that in the great majority of cases timeous treatment of this disease would prevent this result from ensuing; and whether he would take steps, by circular or otherwise, to induce the local authorities, under Section 7 of the Infectious Diseases (Notification) Act, 1889 to order that that Act should apply to this disease.—Mr. BURNS replied: I am aware that timely treatment will prevent blindness following on ophthalmia of the newly born. This is fully recognised in the rules of the Central Midwives Board, which direct a midwife in attendance at a confinement in any case of inflammation of the eyes of the child, however slight, to explain to the husband or nearest relative or friend present that the case is one in which the attendance of a registered medical practitioner is required and to give him a form for

sending for such help. She must send a copy of this form to the local supervising authority which is thus made aware of the case. I would point out that the primary object of the Infectious Diseases (Notification) Act is to prevent the spread of infection. This danger scarcely exists in cases of ophthalmia of the newly born. I am afraid that I could not properly take the precise course suggested by the noble lord in the last part of the question, but I am giving consideration to the whole subject.

WEDNESDAY, MARCH 18TH.

*Tuberculosis in the Army.*

Mr. SUMMERBELL asked the Secretary of State for War to state the number of soldiers discharged during 1907 suffering from tuberculosis and who were in receipt of a pension; and the number of men discharged during the same period suffering from the same disease and who were in receipt of a pension due to having contracted the disease while in the service or due to the climate where serving.—Mr. HALDANE replied: 357 men were invalided for tuberculosis during the year 1907. Of these 216 received pensions (most of them temporary in the first instance) and of these 50 contracted the disease owing to their military service and 40 from climate.

## BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, London, W.C.

Minor Maladies and their Treatment. By Leonard Williams, M.D., M.R.C.P., Physician to the French Hospital; Assistant Physician to the Metropolitan Hospital. Second edition, revised and enlarged. Price 5*s.* net.

CHAPMAN AND HALL, Limited. (HENRY FROWDE, London)

The Posthumous Papers of the Pickwick Club. By Charles Dickens.

Barnaby Rudge. A Tale of the Riots of 'Eighty. By Charles Dickens. (The Works of Charles Dickens. Complete Edition in Twenty Volumes. With Illustrations by Cruikshank, "Phiz," &c.) Price, cloth, 1*s.* 6*d.* net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

A Simple Method of Water Analysis. Especially designed for the Use of Medical Officers of Health. By John C. Thresh, M.D. Vict., D.Sc. Lond., D.P.H. Camb., Fellow of the Institute of Chemistry, Member of the Society of Public Analysts, Medical Officer of Health for the County of Essex. Sixth edition. Price 2*s.* 6*d.* net.

CLARENDON PRESS, Oxford (HENRY FROWDE, London, Edinburgh, New York, and Toronto).

The History of the Study of Medicine in the British Isles. The Fitz-Patrick Lectures for 1905–06 delivered before the Royal College of Physicians of London. By Norman Moore, M.D. Cantab., Fellow of the Royal College of Physicians, Physician to St. Bartholomew's Hospital. Price 10*s.* 6*d.* net.

CLARK, T. AND T., 38, George-street, Edinburgh.

No Struggle for Existence, No Natural Selection. A Critical Examination of the Fundamental Principles of the Darwinian Theory. By George Paulin. Price 5*s.* net.

E. H. COLEGROVE Co., 67, Wabash-avenue, Chicago, Ill.

Text-book of Otology for Physicians and Students. In 32 Lectures. By Fr. Bezold, M.D., Professor of Otology at the University of Munich, and Fr. Siebenmann, M.D., Professor of Otology at the University of Basle. Translated by J. Holinger, M.D., of Chicago. Price $3.50 net.

FISCHER, GUSTAV, Jena.

Zeitschrift für die Erforschung und Behandlung des Jugendlichen Schwachsinns auf wissenschaftlicher Grundlage. Herausgegeben und redigiert von Dr. med. H. Vogt, Frankfurt a.M. und Dr. med. et Phil. W. Weygandt, Würzburg. Zweiter Band, Erstes Heft. Sechs Hefte bilden einen Band; der Preis hierfür beträgt 15 Mark.

FROWDE, HENRY, AND HODDER AND STOUGHTON, 20, Warwick-square, London, E.C.

Oxford Medical Publications. Rotunda Midwifery for Nurses and Midwives. By G. T. Wrench, M.D., late Assistant Master, Rotunda Hospital. With Introduction by the Master of the Rotunda Hospital. Price 6*s.* net.

Oxford Medical Publications. Diets in Tuberculosis. Principles and Economics. By Noel Dean Bardswell, M.D., M.R.C.P., F.R.S. Edin., Medical Superintendent, King Edward VII. Sanatorium, and John Ellis Chapman, M.R.C.S., L.R.C.P., Medical Superintendent, Coppin's Green Sanatorium. Price 6*s.* net.

JAKOWLEW, S. P. (Druckerei der Gesellschaft), Moskau.

Bericht über die Thätigkeit des Temporären Lazareths am Golitzyn-Hospital in Moskau während des Russisch-Japanischen Krieges. (18 Juni, 1904–10 April, 1906.) Herausgegeben auf persönliche Kosten der Fürstin Anna Alexandrowna Golitzyn. Von Dr. S. Derüginsky, Chefarzt des Golitzyn-Hospitals in Moskau.

LANE, JOHN, The Bodley Head, London and New York.

A Short Practice of Aural Surgery. For the Use of Students and Practitioners. By J. Arnold Jones, M.B., Ch.B. Vict., F.R.C.S. Ed., Hon. Assistant Aural Surgeon to the Manchester Eye and Ear Hospital. Price not stated.

MARLBOROUGH, E., AND Co., 51, Old Bailey, London, E.C.

Dutch Self-Taught. With Phonetic Pronunciation. By Captain C. A. Thimm. Second edition. Revised by Carel Thieme, Examiner in Dutch for the London Chamber of Commerce. Price, wrapper, 2*s.*; cloth, 2*s.* 6*d.*

MASSON ET CIE, Boulevard Saint-Germain, 120, Paris. (GAUTHIER-VILLARS, Quai des Grands-Augustins, 55, Paris.)

La Ménopause. Par le Dr. Ch. Vinay, Médecin des Hôpitaux de Lyon, Professeur Agrégé de la Faculté de Médecine. (Encyclopédie Scientifique des Aide-Mémoire, publié sous la Direction de M. Léauté, Membre de l'Institut.) Price Fr. 2.50.

METHUEN AND Co., 36, Essex-street, Strand, London, W.C.

Early Woodcut Initials. Containing over Thirteen Hundred Reproductions of Ornamental Letters of the Fifteenth and Sixteenth Centuries, selected and annotated by Oscar Jennings, M.D., Member of the Bibliographical Society. Price 21*s.* net.

Functional Nerve Diseases. By A. T. Schofield, M.D., Honorary Physician, Friedenheim Hospital. Price 7*s.* 6*d.* net.

Diseases of Occupation from the Legislative, Social, and Medical Points of View. By Thomas Oliver, M.D., F.R.C.P., Physician, Royal Victoria Infirmary, Newcastle-upon-Tyne; Professor of Physiology, Durham University. Price 10*s.* 6*d.* net.

MURRAY, JOHN, Albemarle street, London, W.

Heredity. By J. Arthur Thomson, M.A., Regius Professor of Natural History in the University of Aberdeen, Author of "The Study of Animal Life," "The Science of Life," "Outlines of Zoology," "The Progress of Science," "Herbert Spencer," &c. Price 9*s.* net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, London, W.C.

Morag the Seal. By J. W. Brodie-Innes. Price 6*s.*

SMITH, ELDER, AND Co., 15, Waterloo-place, London.

Saint Bartholomew's Hospital Reports. Edited by H. Morley Fletcher, M.D., and W. McAdam Eccles, M.S., F.R.C.S. Vol XLIII. Price not stated.

SPRINGER, JULIUS, Monbijouplatz, 3, Berlin, N.

Anleitung zur Beurteilung und Bewertung der wichtigsten neueren Arzneimittel. Von Dr. I. Lipowski, Dirigierender Arzt der inneren Abteilung der städtischen Diakonissenanstalt in Bromberg. Mit einem Geleitwort des Geh. Med.-Rat Professor Dr. H. Senator. Price M.2.80; bound, M.3.60.

Kosmetik. Ein Leitfaden für Praktische Aerzte. Von Dr. Edmund Saal'eld in Berlin. Price not stated.

SWAN SONNENSCHEIN AND Co., LIMITED, London.

The Public Schools' and Preparatory Schools' Year-Book. 1908. Price 3*s.* 6*d.* net.

The Schoolmaster's Year-book and Directory, 1908. A Reference Book of Secondary Education in England and Wales. Sixth annual issue. 1908. Price 7*s.* 6*d.* net.

THACKER, SPINK, AND Co., Calcutta. (THACKER, W., AND Co., 2, Creed lane, London, E.C.)

Manual of Ophthalmic Operations. By F. P. Maynard, M.B. Durh., D.P.H. Camb., F.R.C.S. Eng., Lieutenant-Colonel, Indian Medical Service, Professor of Ophthalmic Surgery, Medical College, and Ophthalmic Surgeon, Medical College Hospital, Calcutta; Surgeon-Superintendent, Mayo Native Hospital, Calcutta; Fellow of the University of Calcutta. Price 9*s.* net.

WILLIAMS AND NORGATE, London. (For the UNIVERSITY PRESS OF LIVERPOOL)

The Practical Study of Malaria and other Blood Parasites. By J. W. W. Stephens, M.D. Cantab., D.P.H., Walter Myers Lecturer in Tropical Medicine, University of Liverpool, and S. R. Christophers, M.B. Vict., I.M.S., Members of the Royal Society's Commission on Malaria in Africa and India, 1898–1902. Third edition. Price 12*s.* 6*d.* net.

WILSON, EFFINGHAM, 54, Threadneedle-street, London.

A Handy Book on the Law of Master and Servant, Employer and Employed, Chiefly as Regards their Civil Rights. By James Walter Smith, Esq., LL.D., of the Inner Temple, Barrister-at-Law. New edition by George Frederick Emery, Esq., LL.M., of the Inner Temple, Barrister-at-Law, S.E. Circuit. Price 1*s.* 6*d.* net.

The Modern Balance-sheet: an Analysis of Company Finance. By V. St. Clair Mackenzie, B.A., Barrister-at-Law. With Historical Chapters by Anthony Pulbrook, author of "The Law and Practice of Joint Stock Companies." Price 2*s.* 6*d.* net.

WYNKOOP HALLENBECK CRAWFORD Co., State Printers, Lansing, Michigan.

Thirty-seventh Annual Report of the Secretary of State on the Registration of Births and Deaths, Marriages and Divorces, in Michigan for the Year 1903. George A. Prescott, Secretary of State. Price not stated.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CLAY, ROBERT HOGARTH, M.D. Edin., M.R.C.P. Edin., has been appointed on the Honorary Medical Staff of the Devon and Cornwall Sanatorium for Consumption, Didworthy.

CORBETT, HENRY ROBERT, M.B., B.Ch.R.U.I., has been appointed on the Honorary Medical Staff of the Devon and Cornwall Sanatorium for Consumption, Didworthy.

DEWAR, T. F., M.D., C.M. Aberd., has been appointed Medical Officer of Health to the Fife County Council.

EDWARDS, HENRY JAMES, M.D. Durh., L.R.C.P. & S. Edin., D.P.H. Lond., has been appointed Medical Officer and Public Vaccinator for the Lynton District by the Barnstaple (Devon) Board of Guardians.

GLEGG, R. ASHLEIGH, M.D., B.S. Edin., has been appointed Medical Officer of Health and Chief Medical Inspector of School Children for the Parts of Lindsey.

GOODWIN, A. C., M.B., M.Ch. Oxon, F.R.C.S. Eng., has been appointed Surgeon to the West Bromwich and District Hospital.

HALL, OCTAVIUS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., D.P.H., has been appointed by the Devonport Borough Council Chief Medical Inspector under the Administrative Provisions (Education) Act.

JACKSON, GEORGE, F.R.C.S. Eng., L.R.C.P., L.S.A., has been appointed on the Honorary Medical Staff of the Devon and Cornwall Sanatorium for Consumption, Didworthy.

LINDSEY, COLIN DUNROD, M.D. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed on the Honorary Medical Staff of the Devon and Cornwall Sanatorium for Consumption, Didworthy.

MCELLIGOTT, M. G., F.R.C.S. Irel., D.P.H., has been appointed Honorary Surgeon to the Wigan Division of the St. John Ambulance Brigade.

MCHATTIE, THOMAS J. T., M.B., Ch.B. Edin., has been appointed Casualty Officer to the Great Northern Central Hospital, London.

MACKENZIE, A., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the North Leeds District of the county of York.

MUDGE, ZACHARY BELLING, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health for the Phillack (Cornwall) Urban District.

NETTLE, WILLIAM, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Liskeard (Cornwall) Urban District.

PATTINSON, HENRY ALBERT, M.R.C.S., L.R.C.P. Irel., has been re-appointed Medical Officer of Health for Seaton (Devonshire) Urban District.

RENTZSCH, SIGISMUND H., L.R.C.P. Lond., M.R.C.S., has been appointed Clinical Assistant to the Birmingham and Midland Hospital for Skin Diseases.

ROWNTREE, CECIL, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Registrar to the Cancer Wards of the Middlesex Hospital.

STALLARD, H., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Physician and Referee for Newark to the Royal Midland Counties' Home for Incurables.

STEVENS, ANDREW NORRIS, L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Assistant Medical Officer of Health of the County Borough of Great Yarmouth.

WEBBER, HENRY WOOLMINGTON, M.D., M.S. Lond., F.R.C.S. Edin., L.R.C.P., M.R.C.S., has been appointed on the Honorary Medical Staff of the Devon and Cornwall Sanatorium for Consumption, Didworthy.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

ABERDARE, URBAN DISTRICT COUNCIL EDUCATION COMMITTEE.—School Medical Officer. Salary £220, rising to £250.

BIRMINGHAM, QUEEN'S HOSPITAL.—Two House Physicians for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board and residence Also House Physician, unmarried. Salary £100 per annum, with board and residence.

BRIGHTON, EDUCATION COMMITTEE FOR THE COUNTY BOROUGH.—School Doctor. Salary £300 per annum.

BUCKS COUNTY COUNCIL.—Medical Officer of Health. Salary 50 guineas per annum and fees.

CAMBRIDGESHIRE, &c., ASYLUM, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and attendance.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, lodging, washing, and attendance.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £70 per annum, with board and residence.

CHELTENHAM GENERAL HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board and lodging.

CHESTERFIELD, BOROUGH OF.—Assistant to the Medical Officer of Health (female). Salary £150 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, washing, and residence. Also Clinical Assistant.

DERBYSHIRE, DEVONSHIRE HOSPITAL, Buxton.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon, unmarried. Salary £70 per annum, with board and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—Eight Clinical Assistants.

GROCERS' COMPANY.—Two Scholarships for Research in Sanitary Science value £300 a year each, with allowance to meet the cost of apparatus and other expenses.

HOLBORN UNION, London.—Public Vaccinator for the St. Luke's District.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon for six months. Salary £20. Also House Physician for six months. Salary £20. Also Assistant Casualty Medical Officer for six months. Salary £20. All with board and residence.

HOSPITAL FOR WOMEN, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 40, Grove End-road, London, N.W.—Resident Medical Officer, unmarried. Salary at rate of £50 per annum.

INFANTS HOSPITAL, Vincent-square, Westminster.—Assistant Physician.

IPSWICH, BOROUGH OF.—Assistant Medical Officer of Health. Salary at rate of £150 per annum.

KENT COUNTY COUNCIL.—Medical Officer of Health. Salary £800 per annum, with expenses.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and apartments.

LEICESTER INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60, with board, lodging, and washing.

MANCHESTER, UNIVERSITY OF.—Senior Demonstrator in Physiology. Salary £150, rising to £200 per annum.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

MIDDLESEX HOSPITAL, W.—Second and Third Assistants to the Director of the Cancer Research Laboratories. Salary of Second Assistant £150 and Third Assistant £100 per annum.

MOUNTAIN ASH URBAN DISTRICT EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Registrar. Salary £150 per annum.

NEWCASTLE-UPON-TYNE DISPENSARY.—Resident Medical Officer. Salary £250, with residence.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

ROYAL NAVY, MEDICAL DEPARTMENT.—Examination for not less than 15 Commissions.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.—Medical Officer with X Ray experience. Salary £50 per annum.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—Two House Physicians and Two House Surgeons. Salary in each case £50 per annum, with board, residence, and washing.

SHREWSBURY, SALOP INFIRMARY.—House Surgeon. Salary £100 per annum, with board, washing, and residence. Also House Physician for six months. Salary at rate of £50 per annum, with board and apartments.

SHROPSHIRE EDUCATION COMMITTEE.—Two Medical Inspectors. Salary £250 a year, rising to £300, with travelling expenses.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Surgeon, also House Physician. Salaries £100 per annum respectively, with rooms, board, and washing.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence and laundry.

STOCKTON-ON-TEES EDUCATION COMMITTEE.—Assistant to the Medical Inspector of School Children. Salary £200 per annum.

SURREY COUNTY COUNCIL EDUCATION COMMITTEE.—Four Assistant Medical Officers. Salary of each £250 per annum, with expenses.

TORQUAY, TORBAY HOSPITAL.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

WALSALL, EDUCATION COMMITTEE FOR THE COUNTY BOROUGH.—School Medical Officer. Salary £200 per annum.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST HAM COUNTY BOROUGH EDUCATION COMMITTEE.—Two Medical Inspectors of School Children. Salary £250 per annum, rising to £300 in each case.

WEST LONDON HOSPITAL AND POST GRADUATE COLLEGE, Hammersmith-road, W.—Clinical Assistants.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

WORCESTERSHIRE, BARNSLEY HALL ASYLUM, Bromsgrove.—Second Assistant Medical Officer. Salary £150 per annum, with quarters, board, washing, and attendance.

WORCESTERSHIRE EDUCATION COMMITTEE.—Inspector of School Children and Midwives. Salary £400 per annum, with travelling expenses. Also Two Assistant Inspectors. Salary £175 per annum, with travelling expenses.

WORTHING, BOROUGH OF, AND RURAL DISTRICT OF EAST PRESTON, COMBINED SANITARY DISTRICT.—Medical Officer of Health. Salary £500 per annum.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £120 a year, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Lynton, in the county of Devon; and at South Burnley, in the county of Lancaster.

# Births, Marriages, and Deaths.

## BIRTHS.

BARENDT.—On March 14th, at Rodney-street, Liverpool, W., the wife of Frank H. Barendt, M.D. Lond., F.R.C.S. Eng., of a daughter.

CLARK.—On March 13th, at Chamberlayne Wood-road, Kensal Rise, the wife of Reginald Clark, M.R.C.S., L.R.C.P., of a son.

MAXWELL.—On Feb. 3rd, at Yung-chun, Fuhkein Province, China, the wife of J. Preston Maxwell, M.B., F.R.C.S., of a daughter.

***N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.***

# Notes, Short Comments, and Answers to Correspondents.

## A BIBLIOGRAPHY OF MEDICAL ANTIQUITIES.

WE have received from Herr Ludwig Rosenthal, of München, 16, Hildegardstrasse, an interesting catalogue of second-hand old medical books, which is of great interest to all who concern themselves with the archives of medicine. Herr Rosenthal has certainly achieved a collection worthy of a university library; 3000 books are catalogued and he is prepared to part with his treasures at prices which seem to us quite moderate, as instance, "937. Harveius, Guil. De motu cordis et sanguinis in animalibus. Acc. Joh. Walaei. epistol. duae, quibus Harveii doctrina roboratur. Patav. 1643. 4 ff., 227 pp. Price 24 marks." He has several copies of the folio of Arnold of Villanova and offers the 1514 edition for 100 marks (£5), and the 1585 Basle edition, which in its first state is a noble volume, for 60 marks. There are many more recent works of equal interest and we can recommend the catalogue to the notice of antiquaries of the science with which it deals. The books are fully described and any imperfections which they may have are recorded, in which case due allowance is made in their pricing.

## AN OBJECTIONABLE ADVERTISEMENT.

*To the Editor of* THE LANCET.

SIR,—I would venture to call your attention to the inclosed advertisement from the *Field*. I am no authority on the length to which ethics permit the medical profession to advertise but surely the advertiser in this case, presuming him really to be a duly qualified practitioner, is sailing a trifle close to the wind in his method of advertisement. If such advertisements can be inserted *re* cocaine, &c., why not for the rest of the ills that the human flesh is heir to?

I am, Sir, yours faithfully,

March 15th, 1908. J. WELLESLEY SIMON.

*** The inclosed advertisement is as follows:—

MORPHIA, COCAINE, &c., DRUG HABIT.—Medical Man, with personal and practical experience, guarantees complete CURE without suffering; patients treated with secrecy in their own private apartments, under no restraints.—Apply, "Medical Superintendent," &c. We omit the address.

An advertisement which "guarantees complete cure" should not be published by a medical man in any circumstances.—ED. L.

## WHAT IS PORT?

AT Clerkenwell police-court on Tuesday Messrs. Lipton, Limited, of City-road, were fined for applying a false trade description—namely, the word "port" to three bottles of wine purchased by representatives of the Port Wine Shippers' Association. It was admitted that the wine came from Spain, though there was no indication of that fact either in the catalogue or on the invoice. The magistrate, Mr. Bros, said the facts were very simple. "The customer expected to be supplied with port from Oporto and therefore the invoices were wrong. Port was *primâ facie* regarded as wine from Oporto. If not, it must be qualified properly." Mr. Bros takes exactly the same view of the question as we do. Our view was expressed plainly in the report of THE LANCET Analytical Commission published in THE LANCET of Dec. 14th, 1907. Decisions of this kind will be received with satisfaction.

## AN APPEAL.

IN THE LANCET of Nov. 2nd, 1907, p. 1287, we published an appeal from a medical correspondent on behalf of two imbecile and partly paralysed orphans of the late Colour-Sergeant West, of the 4th Suffolk Regiment, who are entirely dependent upon poor and aged grandparents. We now learn that H.R.H. the Princess Frederica, in conjunction with Mrs. Palmer and other benevolent persons, have taken up the case and have nominated the children—Ernest (aged ten years) and Dorothy (aged eight years)—for the May election to the Colchester Idiot Asylum. It is earnestly hoped that any readers who hold votes in that institution will give them on their behalf as it is a case of genuine distress and permanent relief is urgently needed for the children. We published particulars of their case in the issue mentioned above.

## THE FOSKETT GAS STOVE.

WE have submitted this new gas stove to some experiments and the results on the whole were satisfactory. The combustion of the gas appears to be effected thoroughly, the large mixing chamber of the burner insuring a maximum admixture of air with the gas. The stove which we examined consumed, according to our measurements, only $4\frac{1}{2}$ cubic feet per hour. There was no objectionable smell in the ascending heat currents. The distributor on the top of the burner, a kind of perforated flattened metal sphere, invites adverse criticism, since dust tends to settle on it, and when the burner is first lighted this dust has a tendency to scorch and to give off a smell which, however, is only temporary. The stove is very economical as regards its heating power but care should be taken to use it in rooms where ventilation is provided, for no provision in the shape of a flue is made for carrying away the products of combustion. For the most part, however, these proved to be of a comparatively innocent character, consisting mainly of water vapour and carbonic acid gas. With the small consumption of gas their output is, of course, small. The enamel on the casing over the burner after a while becomes filmed with an acid deposit due to the combustion of the sulphur in the gas. The burner is of peculiar construction, consisting of a column which in reality serves as an effective mixer of the gas with the incoming air. The stove was submitted to us by Messrs. Lloyd, Foskett, and Co., of 143, Cannon-street, London, E.C.

## TEMPERANCE SHIPS.

*To the Editor of* THE LANCET.

SIR,—Can any reader kindly give me any information regarding temperance ships? Do any shipping firms bind their officers to total abstinence?

I am, Sir, yours faithfully,

March 16th, 1908. KEIMO.

## THE ANGLO-AMERICAN MEDICAL ASSOCIATION OF BERLIN.

THIS association has just issued its small, but neat and useful, annual report for 1907. It was organised in October, 1903, by Dr. James H. Honan of Berlin. Its object is to further the interests of all British and American physicians going to Berlin for study, to advise them regarding the post-graduate work in the university, clinics, and hospitals, and to assist them in finding comfortable locations. The membership of the association is necessarily transitory. The association meets every Saturday evening at 7.30 in the Heidelberg Restaurant, Central Hotel Building, corner of Friedrich and Dorotheenstrasse. The reading room of the association is at Rothacker's Buchhandlung, Friedrichstrasse, 105b. All communications respecting membership should be addressed to the President, Dr. James H. Honan, Lützowstrasse, 78, Berlin, W., or to the secretary at the reading room address.

## HYGIENIC CIGARETTES.

BY an ingenious and simple process a pad of cotton-wool is inserted into the paper casing of these cigarettes, which effectually prevents dust and shreds of tobacco entering the mouth, besides which a large proportion of the objectionable oils formed during smoking is arrested in the wool filter. The method is a decided advance on the cardboard mouth-piece which tends to spoil the flavour of the smoke, whereas in the "hygienic bouquet cigarette" the flavour is improved and rendered mild and free from acrid products. The use of the word hygienic is therefore justified. Samples were sent to us by Messrs. Hill and Company, of 78, Fenchurch-street, London, E.C.

## "THE UNITED PRACTITIONERS, LIMITED."

Mr. C. S. Leadbetter, R.D.S., has again sent us a copy of his Bill (which he calls an Act) for "the Control of the Medical, Dental, and Allied Professions," together with a letter which he has addressed to the General Medical Council. We commented upon the Bill, soon after it was published, in our issue of Feb. 17th, 1900, p. 510, and we find Mr. Leadbetter's communications no less incomprehensible now than they were then. His literary style is modelled on that of the late Colonel Rawdon Crawley; for instance, "Technically the Medical Council is in liquidation, as follows, which relates to the same," a sentence which has the true ring of "Same which I shot Captain Marker." Besides his Bill Mr. Leadbetter sends us pamphlets on colonial conferences, British cotton, chloroform, and the relief of Ladysmith. As the General Medical Council has courteously replied that Mr. Leadbetter's letter shall have attention we need say no more.

## EXCESSIVE SMOKING BY A YOUTH.

A CORRESPONDENT writes: "With reference to your interesting article on smoking in last week's issue would any reader suggest a method of breaking the cigarette habit in a youth anxious to give up smoking but without the moral force to do so? He averages 30 cigarettes per diem and always inhales. Are medicinal remedies of any use in counteracting the bad effects of excessive smoking?"

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*Lux in tenebris.*—We made inquiries with regard to the association before inserting the advertisement. There are, as we have always allowed, a certain number of medical aid associations where the medical man receives professional treatment, but there are many which appear to exist chiefly as organisations for sweating medical men. Because of this difference in constitution and attitude we cannot give our correspondent the general rules which he asks us for, but if he will send us the annual report of the association which he served and give us particulars as to his salary, as to his hours of attendance, and as to the precautions taken by the management of the association to exclude well-to-do persons, we shall be happy to give our opinion upon his action. We have made further inquiry with regard to our advertisement and feel satisfied that it is in order, but if our correspondent has any special information here which he thinks ought to make us reconsider our position, we wish he would forward it to us.

*Cicatrix.*—We have been unable to procure the substance. Can our correspondent give us a little more information?

*Dr. T. Pettey.*—Rodagen can, we believe, be obtained from Messrs. R. W. Greeff, 20, Eastcheap, London, E.C.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

# Medical Diary for the ensuing Week.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY (23rd).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

**TUESDAY (24th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

**WEDNESDAY (25th).**—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

**THURSDAY (26th).**—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

**FRIDAY (27th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2 30 P.M.), St. Peter's (2 P.M.).

**SATURDAY (28th).**—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

## SOCIETIES.

**ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.**

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—Lewin Payne, H. H. Trewby): at 8 P.M.

*Specimens:*

Mr. Hopewell Smith: (1) Specimen of Hemirhampus; (2) A Specimen showing Developmental Defect of the Upper Jaw of a Pike (Esox Lucius).

*Cases:*

Mr. Sturridge: A Case demonstrating a Point in the Treatment of Pyorrhœa (illustrated by the epidiascope).

*The Patient will be in attendance at 7.45 p.m.*

*Discussion* (adjourned):

On Mr. J. F. Colyer's paper on the Treatment of Children from a Dental Aspect.

TUESDAY.

THERAPEUTICAL SECTION (Hon. Secretaries—J. Gray Duncanson, H. C. Cameron) at Apothecaries' Hall, Blackfriars, E.C.: at 4.30 P.M.

*Paper:*

Dr. John Milne Bramwell: Hypnotism.

MEDICAL SECTION (Hon. Secretaries—H. H. Tooth, H. P. Hawkins): at 5.30 P.M.

*Papers:*

Mr. S. G. Shattock and Dr. L. S. Dudgeon: Observations upon Phagocytosis carried out by means of Melanin, more particularly with reference to the Part taken by the Leucocytes in Infective Diseases.

Dr. Arthur Latham (in conjunction with Dr. H. D. Spitta and Dr. A. C. Inman): Preliminary Note on the Administration of Tuberculin (T R.) and other Vaccines by the Mouth together with (1) Normal Saline Solution, (2) Fresh Horse-Serum.

FRIDAY.

EPIDEMIOLOGICAL SECTION (Hon. Secretaries—W. H. Hamer, G. S. Buchanan): at 8 P.M.

*Discussion:*

On the Etiology of Typhoid Fever.

*Papers:*

Dr. R. C. Seaton: Opening Remarks.

Dr. D. S. Davies and Dr. I Walker Hall: Typhoid Carriers.

Dr. Meredith Richards and Dr. J. H. Brincker: Potential Dangers of Water derived from Wells in the Chalk.

Dr. W. H. Hamer: Relation of Bacillus Typhosus to Typhoid Fever.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretary—Reginald Morton): at 8.30 P.M.

*Papers:*

Dr. J. Goodwin Tomkinson: Cauterization as an Adjuvant to Radio therapy.

Dr. A. Howard Pirie: On the Value of the Electrolytic Method of Measuring X Rays.

*N.B.—Fellows of the Society are entitled to attend and speak at all Meetings.*

**MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.**

MONDAY.—8.30 P.M., Discussion on the Prognosis and Treatment of Acute Anterior Poliomyelitis (introduced by Dr. J. S. R. Russell).

**MEDICO-LEGAL SOCIETY, 22, Albemarle-street, W.**

TUESDAY.—8.15 P.M., Adjourned Discussion on Dr. Freyberger's paper (opened by Mr. H. Wellington with the Legal Liability of the Anæsthetist).

**CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor-street, Chelsea, S.W.**

TUESDAY.—8.30 P.M., Annual Clinical Debate on Gonorrhœa in the Male, with Special Reference to Treatment. Mr. C. F. Marshall: The Treatment of Chronic Gonorrhœa. Mr. C. Ryall: Some Debateable Points in the Treatment of Gonorrhœa. Followed by General Discussion.

**HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichborne street, Edgware road, W.**

THURSDAY.—Sir Almroth Wright: Some Points in Connexion with Therapeutic Immunisation (Harveian Lecture).

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**ROYAL COLLEGE OF PHYSICIANS, Pall Mall East.**

TUESDAY.—5 P.M., Dr. H. French: The Influence of Pregnancy on certain Medical Diseases, and the Influence of certain Medical Diseases on Pregnancy. (Goulstonian Lectures.)

THURSDAY.—5 P.M.: Sir James Sawyer: Points of Practice in Maladies of the Heart.

**MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.**

MONDAY.—4 P.M., Dr. W. Fox: Clinique (Skin). 5.15 P.M., Lecture:—Dr. J. Clarke: Sprains.

TUESDAY.—4 P.M., Dr. G. A. Sutherland: Clinique (Medical). 5.15 P.M., Lecture:—Dr. G. F. Still: Infantile Marasmus.

WEDNESDAY.—4 P.M., Mr. R. Johnson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. E. F. Buzzard: Compression Paraplegia.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. H. S. Clogg: Peri-colic Inflammation.

FRIDAY.—4 P.M., Mr. H. Tilley: Clinique (Ear).

**POST-GRADUATE COLLEGE, West London Hospital, Hammersmith road, W.**

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. R. Jones: The Legal Aspects of Insanity in so far as these Affect the Medical Man.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Bidwell: Clinical.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.**

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles). 4 P.M., Demonstration of Cases (at the Royal Hospital for Diseases of the Chest, City-road, E.C.): Dr. R. M. Leslie.

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture-Demonstration:—Mr. A. de Prenderville: Some Recent Advances in Anæsthetic Technique.

FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie).

**LONDON SCHOOL OF CLINICAL MEDICINE**, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Sir Dyce Duckworth: On the Employment of Aperient Remedies.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Sir W. Bennett: Some Clinical Aspects of the Disappearance of Pain.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

**NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC**, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture:—Dr. F. Buzzard: Cerebral Tumours.

**HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST**, Brompton.

WEDNESDAY.—4 P.M., Lecture:—Dr. Latham: Selected Cases.

**HOSPITAL FOR SICK CHILDREN**, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Dr. Thursfield: Leukæmia in Children

**LONDON SCHOOL OF TROPICAL MEDICINE**, Albert Docks.

TUESDAY.—4 P.M., Lecture:—Prof. Deycke: Treatment of Leprosy.

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## MANAGER'S NOTICES.

### THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1907, which was completed with the issue of Dec. 28th, were given in THE LANCET of Jan. 4th, 1908.

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*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, March 19th, 1908.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rainfall. | Solar Radio in Vacuo. | Maximum Temp. Shade. | Min. Temp. | Wet Bulb. | Dry Bulb. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| Mar. 13 | 30·07 | N.E. | ... | 86 | 45 | 36 | 36 | 38 | Fine |
| ,, 14 | 30 19 | N.E. | ... | 79 | 44 | 35 | 34 | 36 | Fine |
| ,, 15 | 30 23 | N.E. | ... | 67 | 40 | 30 | 32 | 33 | Cloudy |
| ,, 16 | 29 97 | S.W. | 0·01 | 61 | 47 | 33 | 37 | 38 | Raining |
| ,, 17 | 29 87 | N. | 0·03 | 79 | 45 | 34 | 35 | 37 | Fine |
| ,, 18 | 29 86 | N. | ... | 71 | 43 | 36 | 36 | 37 | Overcast |
| ,, 19 | 29 90 | N.E. | ... | 70 | 41 | 32 | 33 | 35 | Fine |

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